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ABSTRACT

The second volume of a three-volume report on the Rocky Mountain Regional Resource Center provides data on service and training components of the Center's functioning from its inception in 1970 through 1974. Provided are analyses of three 1-year stages in the development of the stratistician model which was originally designed to provide a mechanism for locating the unidentified handicapped not receiving appropriate services and to establish resources necessary for helping the handicapped in a regular class setting. Reported are such developments as the following: that the original work done in the first stage was the collection of data to define inservice training needs; that the measurement of that process ceased in the second stage and was not reinstated; and that although service intentions were defined initially, they became lost in the process of implementation as the stratistician become an effective service provider instead of a data collector. Described is the training sessions for teachers in the stratisticians' schools and preservice training activities in teacher training institutions. Research and evaluation activities are discussed. Appendixes, which comprise more than half the volume, contain such items as stratistician data collection forms and the problem thesaurus, a bibliography on affect-interaction-communication, a bibliography on the competencies and skills needed by stratistician/generalists, and an affective study on student teachers in special education. (GW)

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Final Report

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THE ROCKY MOUNTAIN REGIONAL RESOURCE CENTER: SERVICE AND TRAINING

Volume II of III

November, 1974

U. S. DEPARTMENT OF HEALTH, EDUCATION AND WELFARE

Office of Education

Bureau of Education for the Handicapped
Division of Educational Services

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Office of Education

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Chapter 1

DIRECT SERVICE DELIVERY PROGRAM:

The Stratistician

The Rocky Mountain Regional Resource Center (RMRRC), as part of its overall program of services, desired to provide direct services to schools, instead of through a regional diagnostic center. Discussions were held with the Special Education Division, Utah State Board of Education (USBE) and with administrators from various LEAs throughout the state to determine how existing needs could be met. These educators were concerned that a large percentage (42 percent) of the estimated handicapped children of Utah were not being served, and that the RMRRC could make a significant contribution if a method for providing services could be determined.

The center staff considered alternative ways of providing requested services, but decided that there was not sufficient information to use in designing an effective resource support system. Part of this lack of information was a description of the unserved population and their location. In response to this situation, an important ingredient of the center's initial activity was a needs assessment for planning future activity.

In keeping with the center's child-centered focus, the core element, about which the direct service (and needs assessment) would be provided, utilized instructional resources. Resources were considered as that portion of instruction that dealt with the development and application of the educational prescription, including external support services (without media and materials). The two main on-site approaches to resource services provision were the resource room and the itinerant resource teacher. In considering these two existing service-delivery models, the RMRRC staff was concerned that limitations often imposed by the direct assignment of students to the resource staff seriously limited its effectiveness in providing direct services to all the children in a school who needed their services.

The center's basic philosophic guideline in these first years of operation was to develop methods for providing services to the educationally handicapped child, and to the child in the regular classroom. The center envisioned a resource person who would work primarily supporting the teacher in the classroom, in an effort to help keep the exceptional child in that regular classroom whenever possible. The objective of the resource person would be to work with the teacher to solve problems; in effect, it would provide on-the-job training for techniques of coping with and teaching of the handicapped child.

The center also decided that these interventions would be most effective in the elementary school years. During these years, it was hypothesized, the child with learning problems becomes separated from his peers and enters the special class. The ability to keep the child in the regular class and to increase his learning skills so that peer pressures would not further separate the student was a major goal of the resource program.

The RMRRC developed an approach to providing this service focused on a sequence of activities (model) centered on a person called a "stratistician." This chapter will present the activities that were part of this service delivery model. The sections of this chapter will focus on the evolution of the model through three distinct stages, and then will present some general findings on this resource service delivery. This discussion will begin by providing a general definition of the "stratistician."

The Stratistician

The Rocky Mountain Regional Resource Center (RMRRC) after a year of researching and exploring methods for effecting educational change, developed the concept of a special educator who would work primarily with elementary teachers in their classrooms. This person, with a special education background and classroom experience, would help the teacher find alternate strategies to meet a child's learning problem; he would be a specialist in helping teacher facilitate the affective domain in curriculum;

he would work in each teacher's classroom and see that the child who needed help was neither singled out nor labeled.

To clarify the role of this educational resource, the RMRRC staff felt a special name was needed--a name which would not carry preconceived implications about the role. Since the development and use of specific strategies was to be the forte of this special educator, the idea of a *strategist* evolved. This person would not supplant the services supplied by the psychologist, speech therapist, or social worker, but he would nevertheless be a educational *diagnostician* considering such variables as the affective domain, classroom climate changes, social interactions between teacher and student and between peers, and the effects of socioeconomic background. From the above job description and the combined roles of a strategist and a diagnostician evolved the title: *stratistician*.

In addition to the above-named qualifications and abilities, the stratistician was seen as an individual who would effectively interact with others in a nonthreatening manner. The person would need to be viewed by the teachers as an ally who was willing and capable of helping wherever necessary. (Often when a child is taken from the regular class the teacher may infer that she cannot cope with the youngster's problem, or that the situation demands expertise that she does not possess. Conversely, a teacher may request the reassignment of a child unnecessarily.)

The center expected that the stratistician, in helping the teacher solve an immediate problem, would widen the teacher's experience and help her improve her teaching skills. Positive educational change was to be effected in each school possessing a stratistician. Of more importance, the daily school experience for the educationally handicapped child should be considerably altered. It was anticipated that this combination of factors would help reduce special-class placements.

Another way to describe the stratistician is by listing roles this special educator would not fill. The stratistician would not be a psychologist and would undertake little, if any, psychological testing or therapeutic counseling. If a need existed, district personnel would be used, support personnel from the

RMRRC could be utilized, or the child could be referred to the center or to a demonstration program for diagnosis. The stratistician would not be an administrator nor a disciplinarian, since, the structure of school dynamics, evaluation, and control of teachers or students was not within the stratistician function. The stratistician (a resource to teacher) would not be a resource teacher, although through observation of a student problem and through appropriate programming assistance, the services of the resource teacher could be enhanced.

In positive terms, the stratistician, as a generalist-type special educator, could offer any or all of the following services to a teacher:

1. Class screening in specific areas;

2. Observation of a single student or of a whole class;

3. Planning (with teachers, administrators, aides, committees, pupil service personnel, tutors, university personnel, graduate students, interns, RMRRC personnel, district supervisors, etc.) in classroom management, program development, use of specific curricula, etc.;

4. Evaluation of programs, systems, methods, curriculum, etc.;

5. Diagnosis: informal or formal;

6. Instructional skills: individual inservice;

7. Interaction skills: methods, techniques (i.e., role playing, reflective listening, congruent sending, "I" messages, etc.) with children, administrators, teachers, agencies, parents, etc.;

8. Evaluation of interventions and recycling; feedback to teachers, children, parents, other school personnel;

9. Data collecting, recording, systematizing, and reporting for RMRRC research programs.

The stratistician could be viewed as a link between available resources and the teacher. One such link is through the center as depicted graphically in Figure 1.1. The stratistician is an information channel between teacher and resources. This model assumes that the stratistician has a resource pool of needed resources. The stratistician would recommend use of existing resources or variations of educational procedures located by the stratistician, and would teach the needed skills to the teacher to help adjust the program to fit the child's needs.

Part of the stratistician's role would be the ability to effectively communicate with the teachers and to apply good intervention skills. Through this effective two-way communication, the stratistician would develop the basis for constructive classroom change. In this context the stratistician would effect change by selecting viable intervention strategies and by disseminating them. As suggested by the Title III ESEA guidelines (1967), the criteria for this dissemination included the following elements: clarity, validity, pervasiveness, impact, timeliness and practicality.

To enable the stratistician to function effectively in the classroom, the stratistician would demonstrate the following skills:

Observation	1.	To demonstrate the ability to observe behavior of the teacher and children in a classroom and to determine the relevance of this interaction to the educational objective.
Screening Diagnosis	2.	To be familiar with diagnostic techniques in order to facilitate teacher isolation of classroom problems, i.e., intellectual, social, personal, etc.
Coordination of Resources	3.	To coordinate all available resources on behalf of the child. This includes resources in

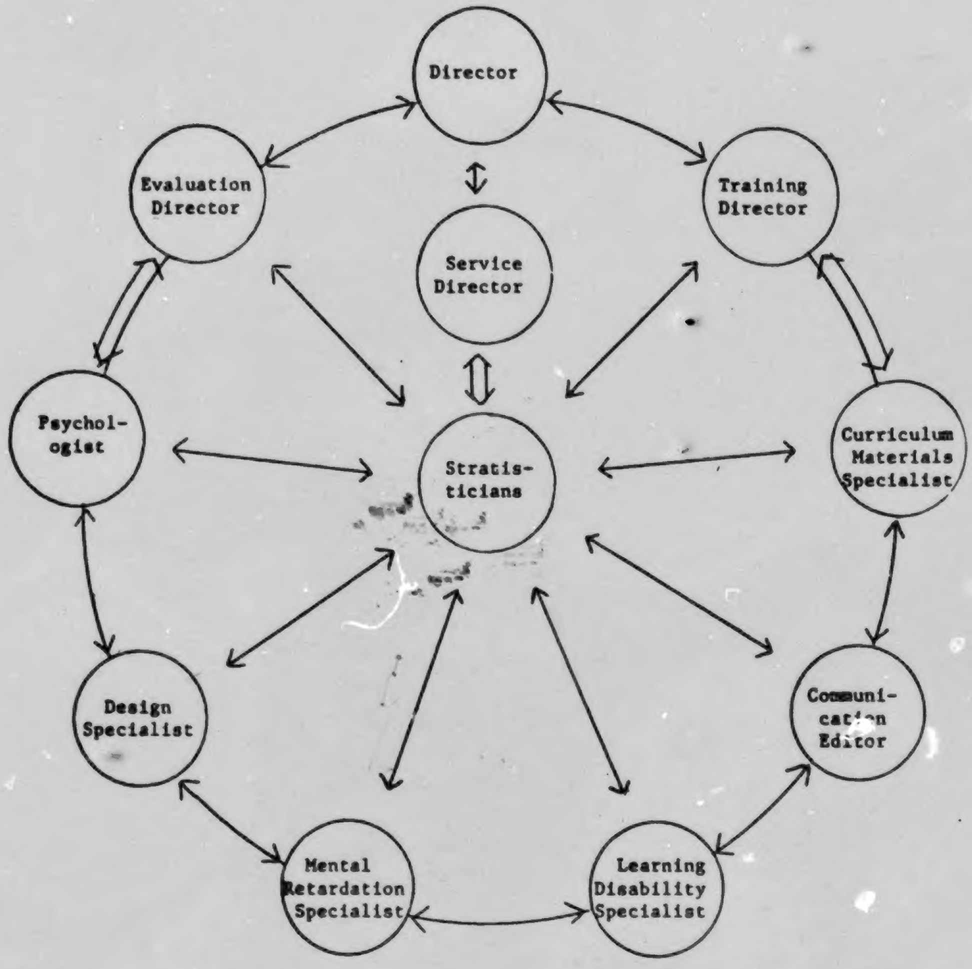

Director
Evaluation Director
Training Director
Service Director
Psychologist
Stratisticians
Curriculum Materials Specialist
Design Specialist
Communication Editor
Mental Retardation Specialist
Learning Disability Specialist

Fig. 1.1

The Stratistician as a Linking Agent through the RMRRC

		the school (principal, other teachers, other special educators if available), the district (psychologists, social workers, nurses, counselors, curriculum specialists, speech therapists, vocational rehabilitationists, community groups, etc.) resources in intermediate or multi-district centers where available, and from state and regional agencies.
Planning	4.	To learn how to develop student and teacher profiles that could be utilized in working out interaction strategies.
Instruction organizing ideas, selecting clues	5.	To create an individualized approach for each teacher to include her personal and professional strengths in pinpointing student problems and to utilize the most useful curriculum materials.
Interaction	6.	To demonstrate through modeling and role playing the interpersonal approaches to problem solving; utilizing the strategy of reflective listening and congruent sending.
Evaluation, recycling	7.	To indicate to teachers the behavioral changes in teacher/student interaction basic to reevaluation and continued programming.
On-the-job training; classroom model development	8.	To demonstrate these skills in an inservice training capacity as needed.

It would be important that the stratistician be able to intervene in the school setting as a change agent when necessary. If the existing value system did not provide optimal learning opportunities for the handicapped child, the stratistician would develop a strategy for introduction of new ideas that would optimize opportunities for all children. Some consideration would include: 1) the approach to explaining the proposal to each audience; 2) the amount and type of information; 3) the method; 4) the point at which information is released; 5) the media; 6) the techniques to implement change; 7) the methods of publicizing the effected change. In addition to the above, the strategy would also have to incorporate methods by which the dissemination agent could collect feedback for evaluation, measurement of audience reaction, and, if necessary, selection of a new strategy by changing the approach.

The intervention procedure would begin by an *assessment of the school program* and its operations. This would involve the procedures, staff relationships, space, materials, and organizational aspects. The next item of importance would be the *identification of concerns*. This would include the school's target population, the age, economic factors, geographic and cultural considerations, and teacher variables.

Part of the description of teacher variables would have to include the identification of the *characteristics of the teacher* in relation to instruction and the teacher's perception of her role within the school. The stratistician, as part of the intervention procedure, would have to recognize the teacher's *uniqueness* as an individual and her ability to cooperate, interact, accept, innovate, and utilize resource support services. The intervention procedure would provide a method for developing a case study teacher profile to determine the best provision of services. Instrumental in all work would be teacher characteristics and teacher concerns, founded or unfounded. It seemed the best approach would be to start where the teacher was and then to move on to other plans of action and interactions in the class.

The stratistician then would be aware of many types of instructional materials, procedures, methods, and their uses. In this sense the stratistician would be a facilitator between available resources and the school in which the stratistician works by aiding in coordination and organization of educational programs.

The preceding discussion presents the basic model for the stratistician. The general historic perspective of this development relative to other activities is in Chapter 2 of this report. Of immediate interest are the changes and development of the model during the project and how services were altered. Three distinct developmental periods of the concept will be discussed.

The first period reflects the stratistician as a needs-assessment mechanism by which data were gathered by direct intervention in the school. In the second period the needs assessment role is minimal and highlights the involvement in the direct educational services. The third period is the development of a two-level hierarchy of stratisticians with an intermediate stratistician between the resource center and the service stratistician. Each of these periods will be examined separately in the following sections, and the results and problems of each stage will be discussed also.

An important element in this model's review is that the majority of services are aimed toward children who were less severely handicapped and who were in the regular classroom. In terms of classical categories the population of children who received services are primarily learning disabled, educable mentally retarded, and minimally emotionally disturbed. A small number of children with mild physical handicaps, hearing impairments, or visual impairments are also in the regular schools' primary target population.

A determining force in the evaluation of the stratistician model is the availability or absence of special services. In urban areas, where the stratistician model was primarily tested, there exists a relatively wide range of services for the severely handicapped child. These include special schools, hospital and state health programs, as well as educational programs involving resource rooms, self-contained classrooms, and itinerant specialists. Therefore, the child who is found in the regular classroom is usually less severely involved and does not meet the criteria for a more intensive program.

In the rural areas a different situation exists. Since there are virtually no special education services in many areas and only a few self-contained classrooms, the more severely handicapped child is more likely to be placed in the regular classroom. The stratistician in a rural setting is more likely to be involved in planning for a severely handicapped child than will his counterpart in an urban setting. During the first year of placement, the rural, itinerant stratistician set up a program for trainable mentally retarded who were not being served, and thus, dealt with a higher incidence of the severely involved. These rural areas provided some basis for piloting the stratistician model with a severely involved population. On the whole, however, because of the availability of services in the urban stratistician placements, the predominant influence in the development of the stratistician role was the need of the less seriously handicapped child.

Chapter 2

STRATISTICIAN, STAGE ONE 1970-1972

The first year of the RMRRC project was the planning year for the development of the stratistician concept. During this formative period the Utah SEA and selected LEAs helped in developing a perspective of the needs within Utah. As stated earlier, these needs related to about 40 percent of the estimated handicapped population who were in regular classrooms, but who were not identified nor receiving special services. The SEA staff indicated that the large majority of severely and/or profoundly handicapped children were identified and were receiving services within a range of programs.

Hard data were not available to substantiate this perception, but the RMRRC accepted the SEA's assessment and sought to meet the needs thus identified. The acceptance of the assessment was important from another view, because it limited the population and the type of services. This limitation was crucial to the center's planning, as it allowed the center to focus its energies and develop resource staff on a more limited range of problems. This limitation allowed the implemented services to be more thorough, and, in turn, responsive to client demands.

The RMRRC, therefore, sought to meet a defined need within Utah by determining the number of unserved children in the regular classroom, and by the provision of special services on a cost-effective basis. The role of the stratistician was directly related to the needs-assessment function, and, in effect, became the key link to the target population. The stratistician's function, (as discussed earlier) was envisioned as a method in which an itinerant resource person would collect data on unserved handicapped children within a school.

The stratistician maintained records on "interventions" with teachers, and through these records an assessment was made of educational handicapping conditions in schools. The records also provided a compilation of teacher needs for instruction. Each child was viewed without categorization by educational problem, and was served in terms of individual learning needs.

The transition from planning to implementation occurred toward the end of the first year. The stratistician concept was transferred into a defined role as outlined in the preceding section. Based on this defined role, a job description was formulated. Because of the nature of the project and the need to be able to relate well to all professionals in the school system, the personal qualities of "openness," "nonjudgmental attitude," "high tolerance for ambiguity," "problem solving approach or attitude," "acceptance of self and of others" were included as important selection criteria. The formally defined requirements included:

a. A minimum of a master-degree level preparation in special education or a related area;

b. Training and field experience in educational evaluation;

c. Field instructional experience.

Duties included:

a. Primary responsibility for the development and application of student-evaluation procedures and instruments;

b. Primary responsibility for the development of instructional programs for usage in prescribed programs;

c. Organization and implementation of training for field personnel in evaluative procedures and instructional programs;

d. Field consultative functions;

e. Maintenance of all data on evaluative procedures and instructional programs.

Six stratisticians were chosen with experience in both the regular and special education fields. All individuals had been highly successful in previous work and had been perceptive in their work with teachers and children. In addition to these qualifications, they were flexible, were able to adjust to problems, and were creative (as measured by the This I Believe instrument, Harvey, et al., 1966 and 1968). In order to utilize and direct those skills toward the stratistician role, a training program was conceptualized.

The training program was developed around the skills of the individuals. Several questions were considered in setting up the training model.

1. What is the role of the stratistician in relation to the total resource system?
    a. What skills, information and attitudes should the stratistician have to be effective in his relationship with other component parts of the total resource system?
2. What skills, information and attitudes should the stratistician have to be effective in his relationship to other service systems in the community, especially in his relationship to the school system?
3. How can the needs and competencies of all stratisticians be evaluated so that these strengths or deficiences can be considered in the training model?
4. How can the training model be monitored for its relevancy to the present educational and service needs of the community so that later training models can be made more "real."

As the role evolved, several integral parts emerged.

1. Retriever of data, information, needs, attitudes on school personnel (teacher, ancillary administration), from literature (journal, books, mailing list), through training activities (workshops, seminars, conferences) and programs (local, national).
2. Disseminator of data, information, needs, attitudes, through direct interactions with

school personnel, training activities, workshops, seminars, conferences, lectures or indirect interactions, i.e., production of letters, materials and literature.

3. Evaluator (incoming and outgoing data from retrieval system).

4. Change Agent (facilitation of the dissemination process).

A questionnaire was given to each stratistician to survey his perceptions regarding role, effectiveness and expectations (of him and by him). A case study method was used in several instances to initiate thought. Information from the questionnaires was then compiled and used in discussion groups and also as material in the training which was directed to respond to identified needs and concerns. In this way each stratistician participated in a portion of his own training, utilizing his interests and strengths. Stratistician interactions with other center personnel enhanced their understanding of how they could help one another and develop into a working group.

Materials were available for individual study and presentations were made by knowledgeable people in the following areas:

Learning disability

Affective education

Defiant children

Social casuality

Illinois Test of Psycholinguistic Abilities

SEIMC; Olathe Retrieval System

Creativity

Administration

Behavior modification

Systems for change

Materials were recommended in all of these areas for reading and future reference. In some cases material was distributed, tapes were made of presentations and note taking was encouraged.

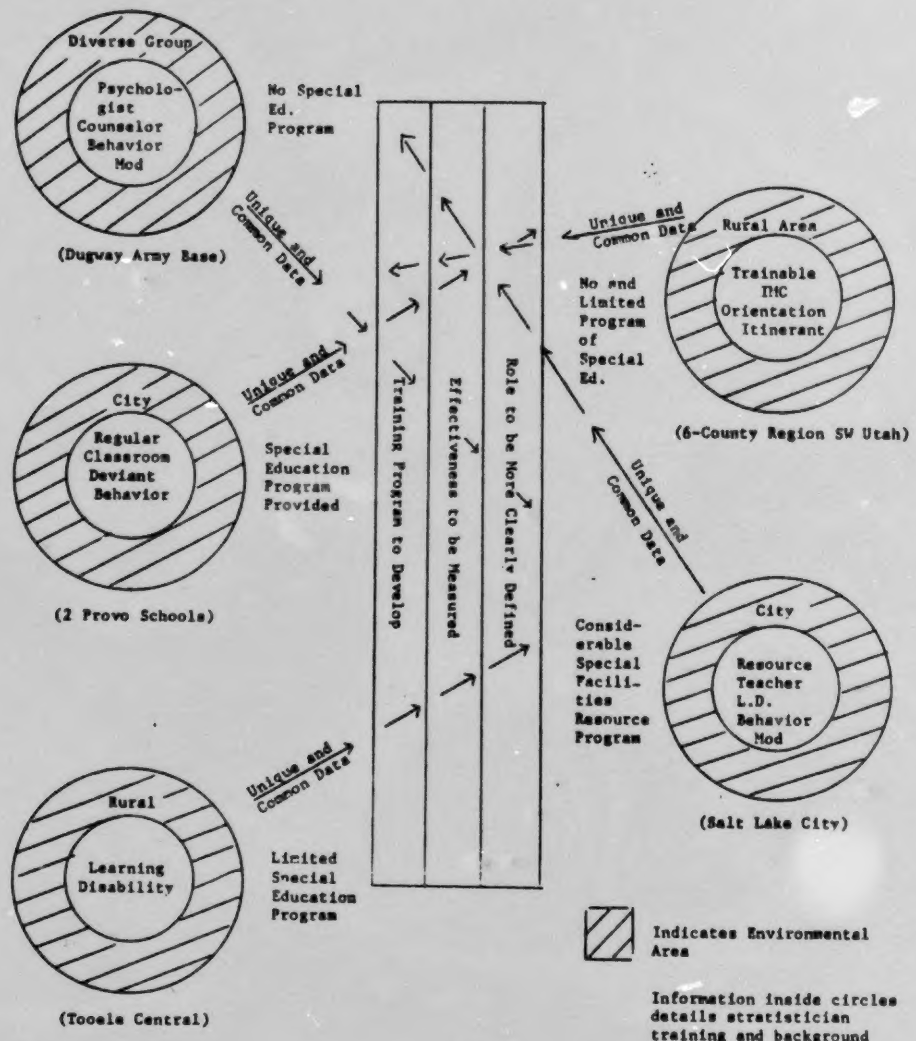
During the training period interaction between statisticians and other RMRRC staff members was encouraged, concerns were noted for future sessions and modeling took place for future interactions in the schools. Role playing also played a part of several phases.

Through the training activities, the stratisticians were geared toward field data collection in selected schools during the 1971-1972 funding period. Six stratisticians were placed at the beginning of that school year in schools with a variety of educational environments. Two stratisticians were placed in Provo area schools that have high student turnover rates (transient); one of the two was located in a low socioeconomic area. Three stratisticians worked for schools having stable student populations, but in socioeconomic areas ranging from low middle to upper middle class. One stratistician worked with several school districts (at an intermediate level) in a rural area.

Figure 2.1 is a paradigm of the distribution of stratisticians by school. The paradigm also provides information about the schools, the status of their special education programs, and the focus or special area of the stratistician. The variation in situational parameter was quite large and was expected to provide a good test of the stratistician concept. The geographic location of the stratisticians is shown in Figure 2.2.

The stratisticians and RMRRC administrators were oriented to each of their school's plans by district personnel. The first plans centered on the orientation of the school teaching staff to the stratistician role and to the RMRRC. Plans were further refined later, but the goals established a link of communications between all participants.

The stratisticians were in the schools four days and in the RMRRC one day each week. They kept anecdotal records for the first few weeks of activity and carefully observed their school's operation. All interactions with teachers were documented, and the


Diverse Group
Psychologist
Counselor
Behavior
Mod
(Dugway Army Base)
No Special
Ed.
Program
Unique and
Common Data
City
Regular
Classroom
Deviant
Behavior
(2 Provo Schools)
Unique and
Common Data
Special
Education
Program
Provided
Rural
Learning
Disability
(Tooele Central)
Unique and
Common Data
Limited
Special
Education
Program
Training Program to Develop
Effectiveness to be Measured
Role to be More Clearly Defined
Unique and
Common Data
Rural Area
Trainable
IMC
Orientation
Itinerant
(6-County Region SW Utah)
No and
Limited
Program
of
Special
Ed.
Unique and
Common Data
City
Resource
Teacher
L.D.
Behavior
Mod
(Salt Lake City)
Considerable
Special
Facilities
Resource
Program
▨ Indicates Environmental Area

Information inside circles details stratistician training and background

Fig. 2.1

Stratistician Assignments

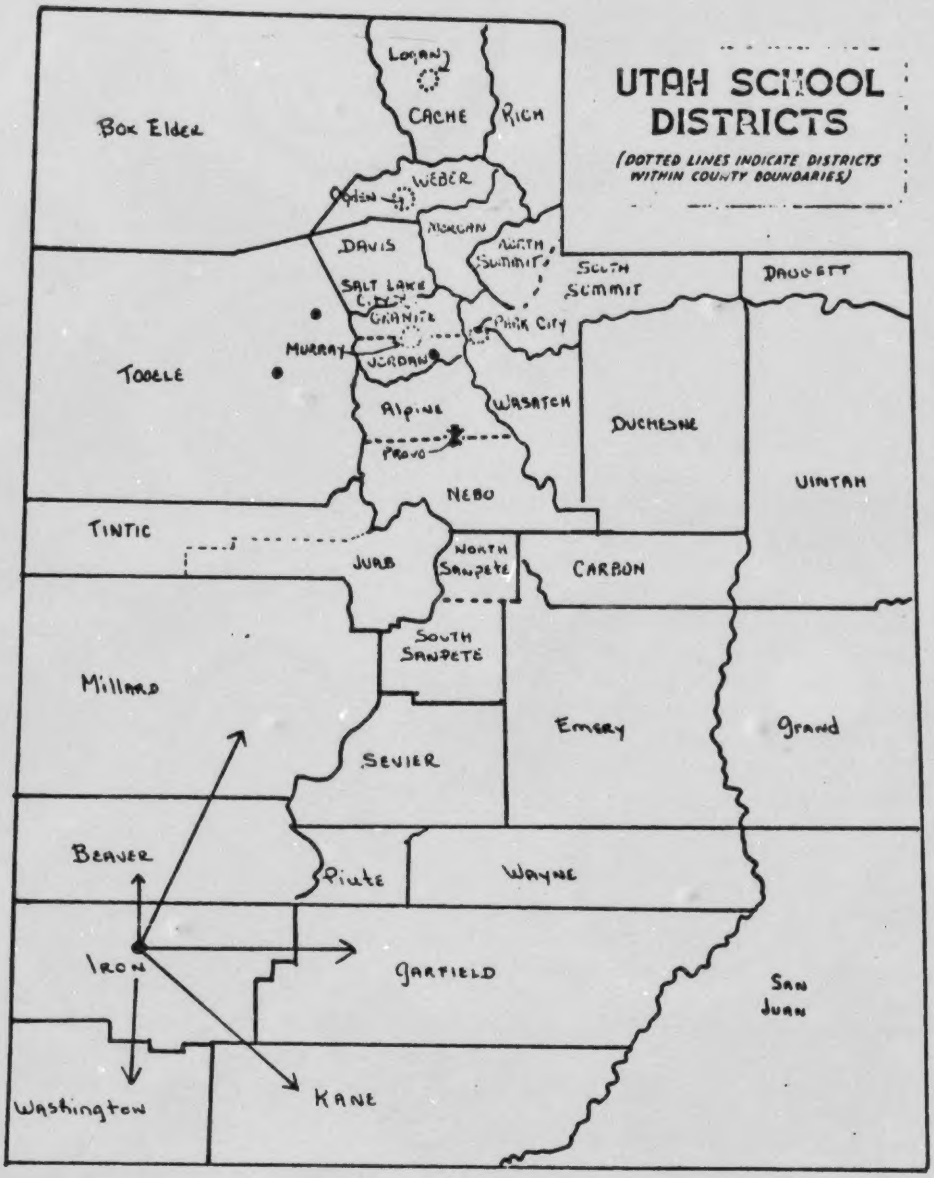

UTAH SCHOOL DISTRICTS
(DOTTED LINES INDICATE DISTRICTS WITHIN COUNTY BOUNDARIES)
Box Elder
Logan
Cache
Rich
Weber
Ogden
Morgan
Davis
North Summit
South Summit
Daggett
Salt Lake City
Granite
Park City
Murray
Jordan
Tooele
Alpine
Wasatch
Provo
Duchesne
Uintah
Nebo
Tintic
Juab
North Sanpete
Carbon
South Sanpete
Millard
Emery
Grand
Sevier
Beaver
Piute
Wayne
Iron
Garfield
San Juan
Washington
Kane

Fig. 2.2

Location of Stratisticians, 1971-72

case studies were discussed during Friday meetings.

A back-up resource staff including a psychologist, special educators, evaluation director, materials specialist and communications specialist was available when requested. All impacts from the resources were also documented. Any case opened was to be followed with the recommended remediative strategies and their effectiveness. The center was responsible for monitoring this process.

The service director worked closely with the field operation. Continuous contact was maintained with the local administration, district personnel and the stratistician. When necessary, communication lines were extended across district lines when it appeared helpful for both districts or when clarification of operations was needed.

A measure of stratistician effectiveness was to be developed during the year, and this measure would be used in establishing where the stratisticians were helpful in the schools and where new directions were needed. As concerns and needs become clear, it was the service director's responsibility to hear them and to establish a plan for resolution.

The Friday meetings were an integral part of the service process--a place to share the problems and cases under study, to gain input information from new sources, to evolve general policies and guidelines, and to evaluate the center's responsiveness to the stratisticians' needs, and the stratisticians' to school needs. It was the service director's responsibility to set up and to conduct these meetings.

When special information was needed at any meeting, advance notice was given to the stratistician. Each key resource person provided input into planning each meeting, a program was distributed, and the activities were evaluated. The evaluation was used to change the format and to make the meetings more useful. Some of the topics initially defined for consideration at these sessions were:

1. Case studies.

2. Interaction skills

3. Data collection

4. New curriculum

5. Video taping

6. Observation techniques

The six stratisticians had a two-fold, overlapping function in the schools, serving both as intervention agents with teachers and as data collection agents. Data collection was viewed as exploratory--since the stratisticians were developing aspects of their roles--and was focused on two general areas: (a) descriptive data and (b) process data. Several specific dimensions were then defined under these two areas.

Three types of descriptive data were collected: support, specific educational problems, and intervention strategies. The information classified as support data represented a demographic description of the referrals made to the stratisticians, and was viewed as vital to the intervention of the other two types of data (specific educational problems and type of intervention.) All these types of data are described under the subsequent headings.

Support data. The types of support data which were to be collected were:

a. Frequency of referral by child's age;

b. Frequency of referral by child's class size;

c. Frequency of referral by grade level;

d. Sex of referred child and referring person;

e. The number of referrals by source (i.e., teacher, principal) and type (i.e., formal referral, informal);

f. Number of referrals by type of class (i.e., team taught, taught by single teacher).

Specific educational problems. The frequency of specific educational problems were those reported by the teacher and stratistician. These educational problems were the basis for a problem thesaurus, which was developed by center staff in collaboration with the field personnel on the basis of preliminary field observations.

Many initial categories did not prove useful and were either deleted or broken down into more discrete behavioral descriptions. This ongoing process was necessary to further refine the categorization of educational problems and to facilitate data tabulation. In addition to the description of the educational problems, data were collected detailing the location where the difficulty arose (i.e., classroom, playground, lunchroom).

The various categories of specific educational problems were viewed from two frameworks. Firstly, each problem represented a problem which detracted from instructional effectiveness. This detraction of effectiveness was of interest because of what the stratistician could do in altering that educational environment and in attempting to reestablish instructional effectiveness. It also represented a teacher's apparent inability to handle a given behavior or behaviors. It was hypothesized that high-frequency occurence of specific problems represented areas where teachers did not have adequate skills or preparation, or were not receiving the necessary inservice training. Intervention strategies, a two-part rationale for specific responses to problems evolved from collected data. Within the major context of the two data bases, the RMRRC identified three major thrusts which would guide the services program: (1) intervention (stratisticians); (2) ecological aspects; and (3) resource system. The intervention approach (stratistician) provided services as well as information in needed inservice and in preservice packaging. As a result of experiences (data), input of various agencies and schools, and brainstorming sessions, a second thrust emerged on the need to know more about the ecological aspects of the stratistician schools and districts. The ecological aspects included socioeconomic status, culture, mobility, transiency, population density, religious preferences, school policies that influenced development of the children, and the school's acceptance of change.

The resource system involved gathering information on available resources in the state and region, identifying needs, and providing information to various schools and/or agencies on relevant resources. The resource system was to function through dissemination of information about ongoing educational approaches in addition to the center's activities. The three types of descriptive data would generate information for better services to teachers, for preservice and inservice training and for assistance in developing a resource system for the region on service, training, and resources.

The procedures promoting changes in the educational establishment consisted of the following steps: (1) identify needs; (2) conceptualize models to meet the perceived needs; (3) establish working relations with cooperating schools; (4) implement the model; (5) identify and capture the variables inherent in the interaction generated by the implementation; (6) analyze the factors involved; (7) develop implications for practice from the analysis, (8) ascertain effectiveness through pilot projects and/or other applied techniques; (9) refine; and (10) apply the results with appropriate evaluation components (feedback loops) for further refinement and tuning to meet the needs of an environment (schools, inservice and/or preservice training). The overall procedure was designed to incorporate changes in response to new information, to adjust direction for change, and also to continually provide the information if a major overhaul was required.

Figure 2.3 presents a schematic representation of the center's model for collection, analysis, packaging, implementation, and dissemination of data for both preservice and inservice training and for resource system development. The process identification model shows the discrete steps of center operations. The process flow model relates to the identification model, but isolates the responsibility and accountability of personnel. The numerically identified stages noted by circled Arabic numbers above each phase of the models show the relationship between the two models.

The dissemination model identifies the stages when information can be provided to interested consumers. For example, if a school were interested in information on simulation models of teacher-child interactions, the information could be provided in Phase I (gross examples), in Phase II (example simulations have been prepared), in Phase III (a pilot assessment has been conducted) or Phase IV (simulations are now being utilized in either preservice

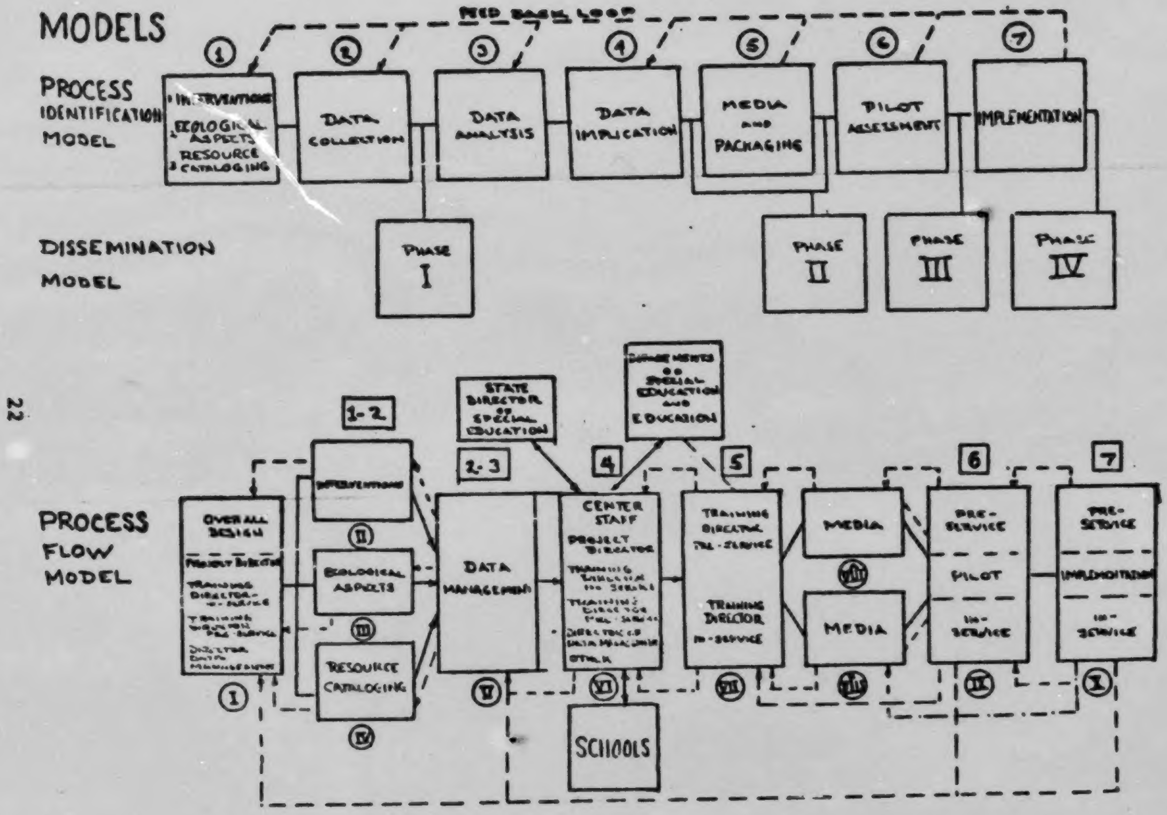

MODELS
FEED BACK LOOP
PROCESS IDENTIFICATION MODEL
① ② ③ ④ ⑤ ⑥ ⑦
1 INTERVENTIONS
2 ECOLOGICAL ASPECTS
3 RESOURCE CATALOGING
DATA COLLECTION
DATA ANALYSIS
DATA IMPLICATION
MEDIA AND PACKAGING
PILOT ASSESSMENT
IMPLEMENTATION
DISSEMINATION MODEL
PHASE I
PHASE II
PHASE III
PHASE IV
PROCESS FLOW MODEL
1-2
2-3
4
5
6
7
STATE DIRECTOR OF SPECIAL EDUCATION
DEPARTMENTS OF SPECIAL EDUCATION AND EDUCATION
OVERALL DESIGN
PROJECT DIRECTOR
TRAINING DIRECTOR-IN-SERVICE
TRAINING DIRECTOR PRE-SERVICE
DIRECTOR DATA MANAGEMENT
INTERVENTIONS
ECOLOGICAL ASPECTS
RESOURCE CATALOGING
DATA MANAGEMENT
CENTER STAFF
PROJECT DIRECTOR
TRAINING DIRECTOR IN-SERVICE
TRAINING DIRECTOR PRE-SERVICE
DIRECTOR OF DATA MANAGEMENT
OTHER
TRAINING DIRECTOR PRE-SERVICE
TRAINING DIRECTOR IN-SERVICE
MEDIA
MEDIA
PRE-SERVICE
PILOT
IN-SERVICE
PRE-SERVICE
IMPLEMENTATION
IN-SERVICE
SCHOOLS
Ⅰ Ⅱ Ⅲ Ⅳ Ⅴ Ⅵ Ⅶ Ⅷ Ⅷ Ⅸ Ⅹ

Fig. 2.3

A Schematic of the Operational Process and Dissemination or inservice training programs). This dissemination method provides for the use of materials at various stages, for consumer information on material sophistication and for a vehicle for dissemination before final implementation, if requested.

The Roman numerals on the process flow model are a guide to understanding the function and rationale of the feedback system. The feedback process is represented by the dotted lines in the schematic model. An example of the feedback process follows: After the implementation (7) of the materials in either inservice or preservice training, it may be decided that corrections or adjustments of the material or packaging is required. In such an event, the material could be referred from the Implementation phase (X) back to Media (VIII, a, b) for reworking if the "overlaps" were not clear; or back to Data Management (V) if the implications are not clear; or back to the Design Component (I) if different or additional questions need to be asked to align the packaged training materials with questions from the trainees.

The built-in feedback process provided a mechanism to incorporate corrections in the defined process. When the model became fully operational, it was anticipated that changes or revisions would be required to maximize data flow and the corrective process. The stratistician formed an important link to the school and the needs-assessment base for regional operation in this approach.

The overall operation during Stage One of the stratistician program (recounted in the preceding discussion) is outlined in the schematic of Figure 2.4. The process flow shows the planned combination of the interventions with the data collection effort and the interaction with the center. The procedure for data analysis is shown as a separate process, producing the desired descriptions of interventions and alternative instructional strategies. The process is clearly defined and expectation is established. The following section presents the results of the activities undertaken.

Data and Results from Stage One

At the end of the first school year, the response

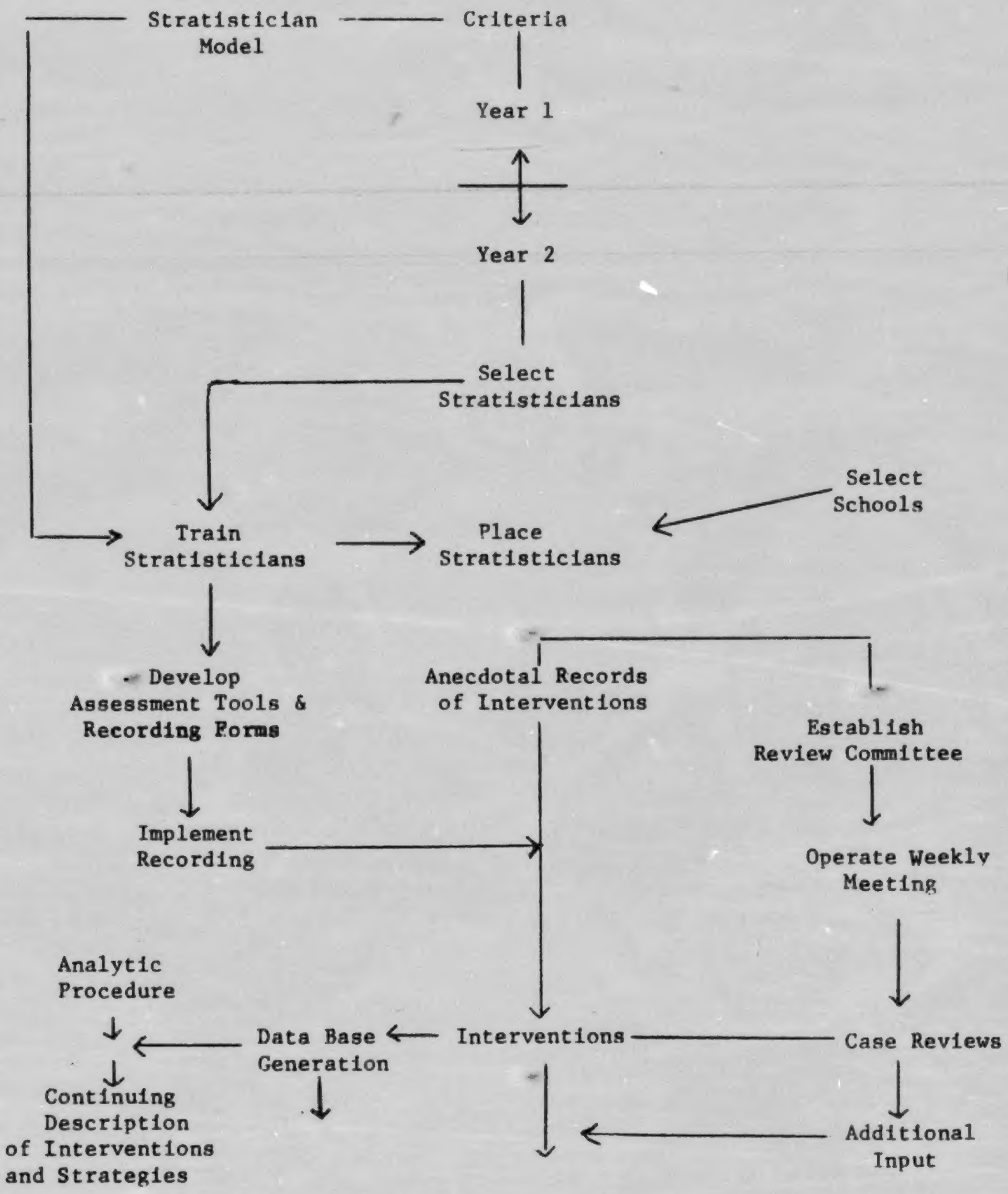

Stratistician Model
Criteria
Year 1
Year 2
Select Stratisticians
Select Schools
Train Stratisticians
Place Stratisticians
Develop Assessment Tools & Recording Forms
Anecdotal Records of Interventions
Establish Review Committee
Implement Recording
Operate Weekly Meeting
Analytic Procedure
Data Base Generation
Interventions
Case Reviews
Continuing Description of Interventions and Strategies
Additional Input

Fig. 2.4

Stage One Stratistician Process Model

from the districts was enthusiastic and supportive. By focusing on the teacher as opposed to the student, the stratisticians felt more students benefited from their services than if they had been used in rooms or self-contained classes. A large number of teachers received inservice training in total faculty groups, in small groups and on a one-to-one basis. More than 90 percent of the teachers in the five schools with a full-time stratistician utilized the stratistician in some way. This high-use rate was attributed to the type of role which allowed the stratistician to move freely and to actually draw together many resources, thus serving all the school's exceptional children.

It was particularly difficult to measure the effectiveness of the stratisticians placed in the multi-district service unit, compared to those in individual schools. The service unit covered a large geographical region in southwestern Utah that contained more than 50 schools. The service rendered was better than none, probably better than previous service, but it was spread over too large an area to have any measurable impact. Perhaps the biggest problem in getting a true assessment of the value of the stratistician model is the fact that the center started out with unique, highly skilled individuals who would probably have been successful in any number of roles. The principals were also carefully selected and reviewed by the RMRRC and the district officials before they received a stratistician.

At the end of the year, the stratisticians were asked to describe the skills they felt were necessary to be effective in this role. The identified skills included diagnosis (formal as well as informal), prescription, knowledge of programs, evaluation skills and interpersonal interaction skills. These identified necessary skills matched the RMRRC's and were included in the stratistician training programs.

The stratisticians faced the operational difficulty of "serving two masters," the school and school system where they were placed and the RMRRC. They functioned as regular faculty members--an integral part of the school for four days a week--and then returned to the RMRRC on Friday for a weekly training meeting. So the stratisticians faced some problems in becoming an integral part of a school when they were out of the school one day each week.

Although this arrangement was clear to the districts and to the school principals before school started and was facilitated by the fact that the RMRRC paid various portions of the stratisticians' salaries (from 25 percent to 100 percent) there were still some feelings about their absence.

An even greater problem was that of keeping the stratisticians focused on defining the process of their role for later transportability, rather than only on solving immediate problems for teachers and children. They faced the dilemma of providing service while doing research. Collecting the necessary data was time consuming and was occasionally limiting in the types of services that could be provided. Stratisticians indicated they often found themselves meeting service needs "on their own time" because of the limitations of the guidelines on the data needs. The additional service needs were defined as activities such as working with students, teachers of students, parents, school projects or community organizations that did not necessarily relate to handicapping conditions. In most cases, the data on the stratisticians' provision of services was accurate in regard to handicapped students, but it did not reflect the total picture of a stratistician's work for a school, a district, or a community.

The history of this first stage included a heavy conflict between the operation of services defined in the proposals and the role development the stratistician. The conflict was strongly spelled out in the resentment voiced by the stratisticians against data collection and record keeping and the requirement to focus on handicapping conditions. In many ways the process was carried out without the full cooperation of the stratisticians.

In retrospect, the clear role definition--that of defining general problem classes and of identifying the target 40 percent of the handicapped population not being served--was not transferred to the stratisticians. A resource agent's perspective on development of regional services was not maintained by the stratisticians relative to the immediate gratifications of a limited service. To the stratisticians, all actions and their worth were measured in terms of immediate service and of the program at each stratistician's school.

In this focus, the stratisticians developed a resentment of data collection, and did not utilize the center as a resource. A separation in their functional roles relative to the organizations they served was made and forced upon the center. In this process the value of the stratistician model could not be ascertained nor did the broader needs statement for regional planning and services evolve. The crucial difficulty was the inability to transfer to the staff the concept of a regional service role and of each individual's responsibility to the region's children.

The data collection instruments developed for use by the stratisticians are included in Appendix A. The instruments were sought so that the center could use the stratisticians' diagnostic prescriptive process as its data base and avoid the imposition of specific data collection activities. The materials were developed, but the use rate and thoroughness of their completion were inconsistent. Even with hindsight, it is difficult to clearly establish the specific causes which created difficulties in the collection of data.

The conflict between intent and outcome was integral to developing an expanded data base on educational problems, intervention strategies, and the unserved handicapped. The process never functioned effectively, and staff members assigned this function collected the data as best they could, but the concept of the stratistician as a classroom-based, needs-assessment mechanism was not applied. Data were collected through secondary sources and reported (and is presented in the following discussion), but the important feature that initiated the model was lost.

The stratistician evolved into a service delivery person with few, if any ties, to the center. The soft link and the revised role established Stage Two of model development, which constituted service in the third funding year described in a subsequent section. Part of the role transition and the work "overload" of the stratisticians was the effect of the non-discriminability of the noncategorical approach. All children, in effect, become exceptional and the special needs of each child must be met. The result is a lower level of service to the handicapped child.

The causes of the problems encountered in implementing the Stage One model were numerous. They cannot be weighted accurately yet, but can be outlined only. Role definition of the center's goals and purpose was not apparently clear to the stratisticians, so their response was to serving a school, not a region. The communication between the center's needs assessment and the data collection effort was poor and compounded the problem of an inadequately defined role. Data collection requires more definitions that, in a totally noncategorical approach, appear to be labels. Therefore, part of the stratistician's resistance to data collection was the inability to establish the difference between definition of problems and child-centered educational responses. Intertwined with these factors was a problem of effective management of a directed program with stated goals and purposes.

Within the context of these general problems, data were collected and tabulations made in January, 1972; the results were reviewed in April, and June on additional data. The data tabulation from mid-January looked at 72 children who represented a population requiring extensive intervention. These children did not represent the total number of contacts (approximately 800 referred children) but represented the more severe educational problems as perceived by their teachers. The data collection was not as complete as desired due to the ongoing nature of many interventions.

The descriptive data indicated that most children referred to the stratisticians were between seven and eight years old. Figure 2.5 pictorially summarizes the frequencies of child contacts by age with stratisticians. Figure 2.6 summarizes the referral frequency by class size and indicates that referrals predominantly came from classes with 25 to 29 children. These data should not be strictly interpreted as an indication that this size of class (25 to 29 students) generates educational problems, since a large portion of the classrooms in stratistician schools contained 25 to 29 students.

Figure 2.7 presents a summary of referral frequency by grade level. The most frequent referrals were in the third grade. These data cannot be simplistically interpreted. Two trends, however, were abstracted from the tabulation and verified by the

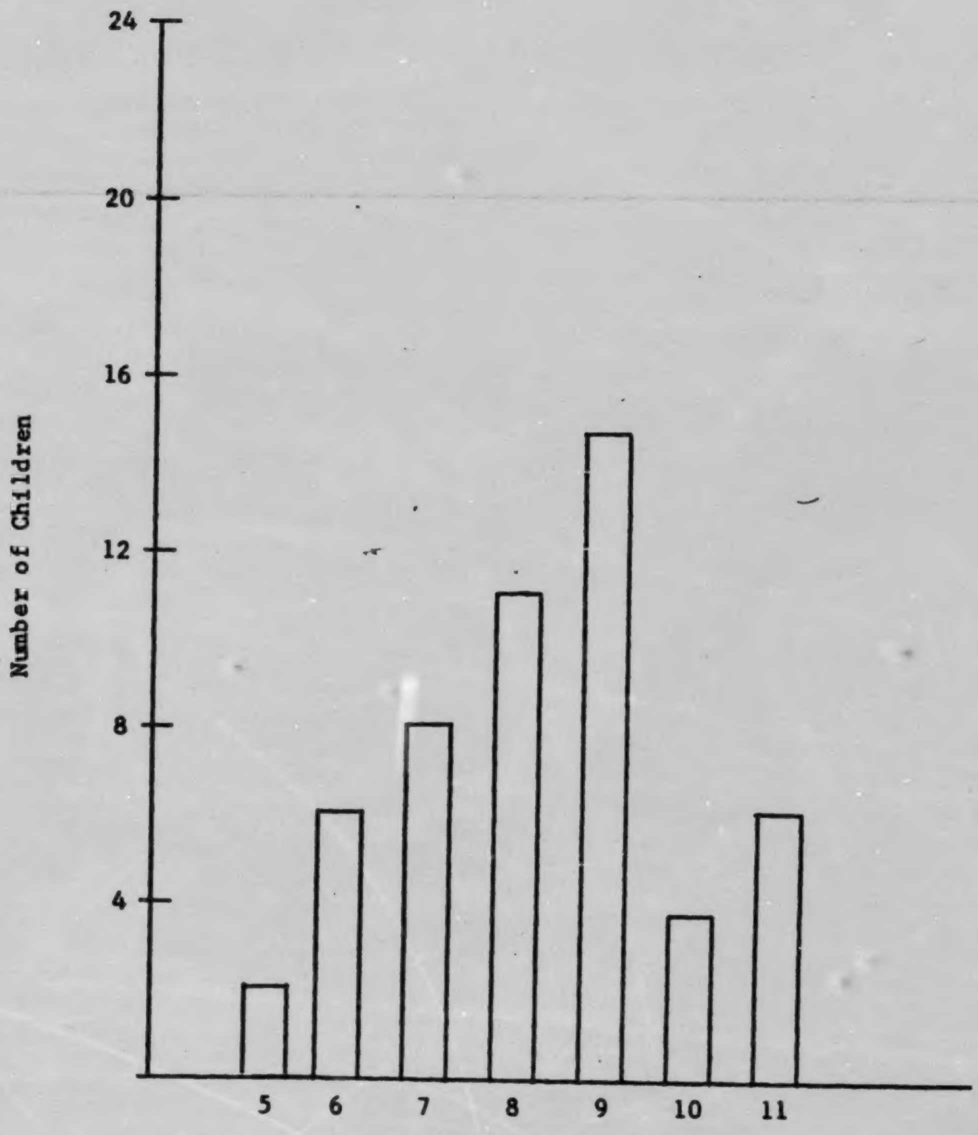


Fig. 2.5

Number of Children Contacted by
Stratisticians by Age (N=72)

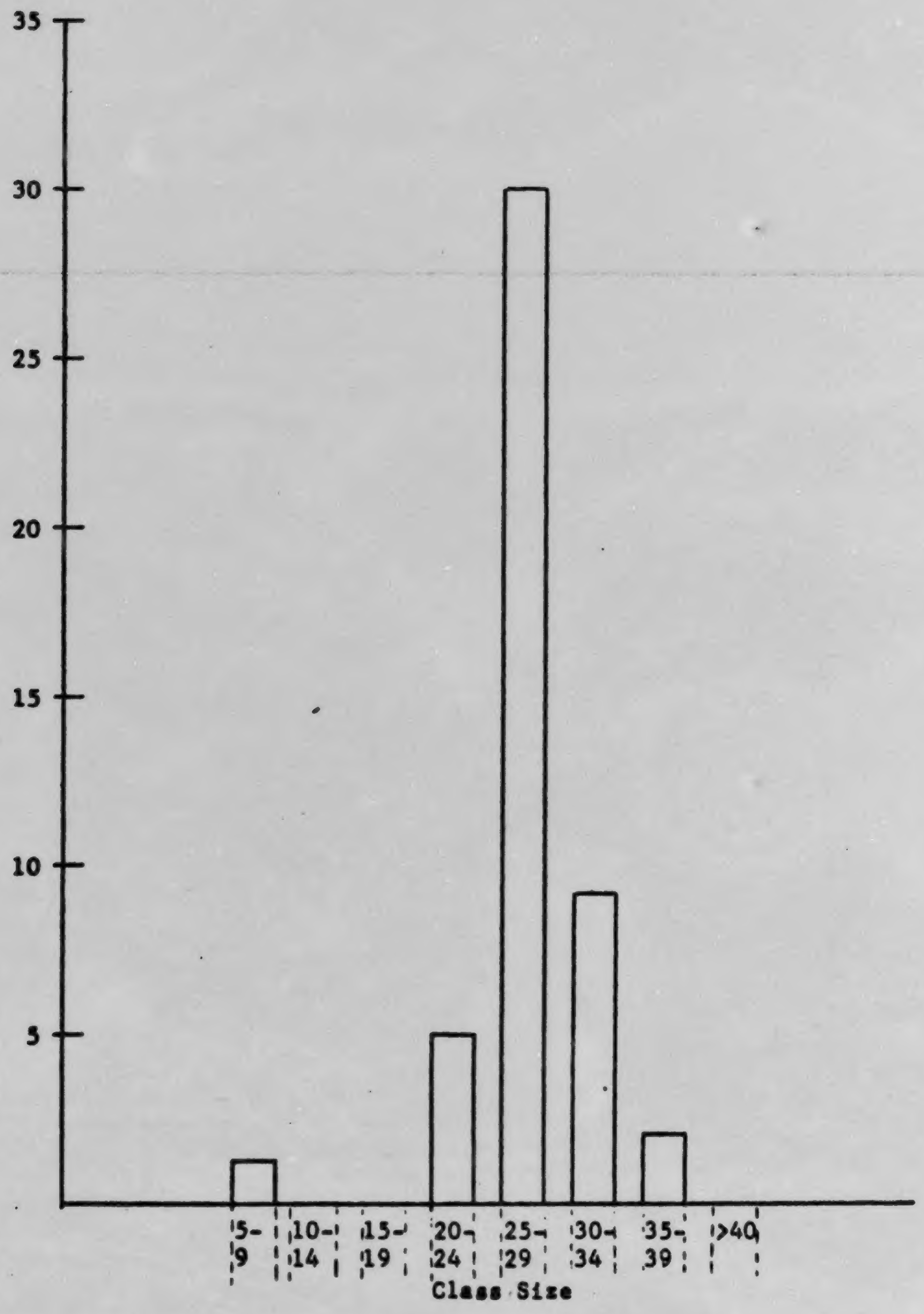


Fig. 2.6

Number of Stratistician Referrals by Class Size

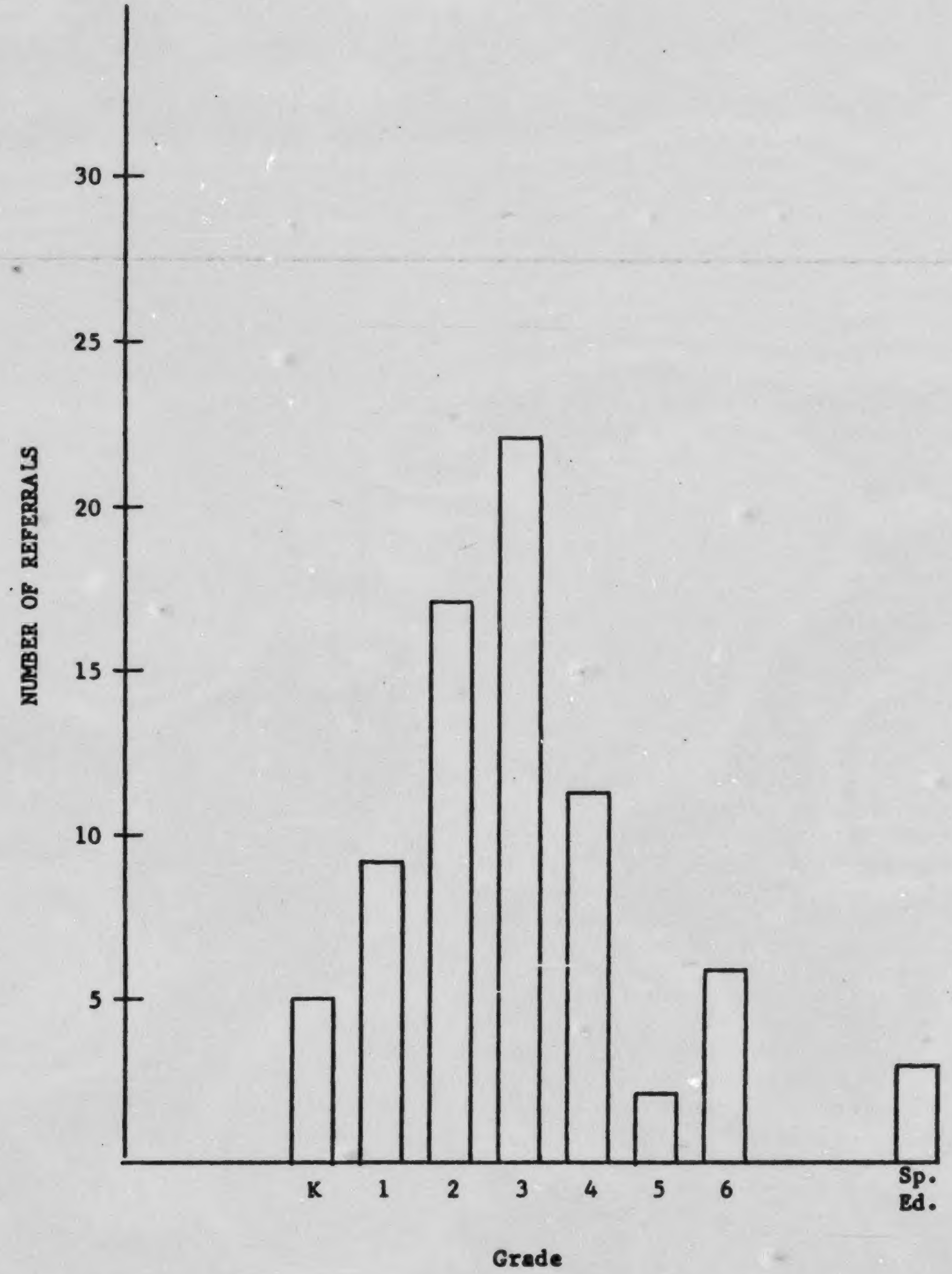


Fig. 2.7

Number of Stratistician Referrals by Grade Level

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stratisticians subjective impressions. One trend evident in Figure 2.7 was that educational problems surface more frequently as the child progresses through school. This was supported by stratisticians' observations and impressions. And, the stratisticians also noted that in certain schools the third-grade teachers required more support, which may have been why more third-grade children were referred. These data reflected two major underlying influences.

Figure 2.8 graphically depicts the frequency of referrals by the sex of the child and of the referring person. The referrals were primarily made by female teachers. This was expected since the school personnel in the pilot schools were predominately female. The substantially higher frequency of referrals of male children followed the general trend of a higher incidence of handicapping conditions and behavioral problems of boys for the age range.

The data presented in Figure 2.9 indicate the primary source of referrals was the teacher who preferred an informal referral process. As defined for purposes of data recording, the informal referral represented a passing or exploratory mention of a student problem, as opposed to the category where the teacher seeks out the interventionist formally. The data in Figure 2.10 indicate that the most frequent referrals were generated in educational settings where the only services readily available were in the regular class. Substantially fewer referrals were generated in settings with supplemental instruction of a resource room or self-contained special class. Although preliminary, these data suggested high need where support services are not readily available or specifically programmed.

Data on the specific educational problems indicated substantial variation on frequency of occurrence. This preliminary data indicated priority areas for attention. These data, categorized by the use of descriptors defined in the descriptor list were viewed as undergoing refinement in a continuing fashion. The thesaurus of educational problems was developed at this time. The thesaurus is presented as Exhibit A.2 in Appendix A.

The data collected indicated a very low usage of many descriptors. Of the key descriptors used there

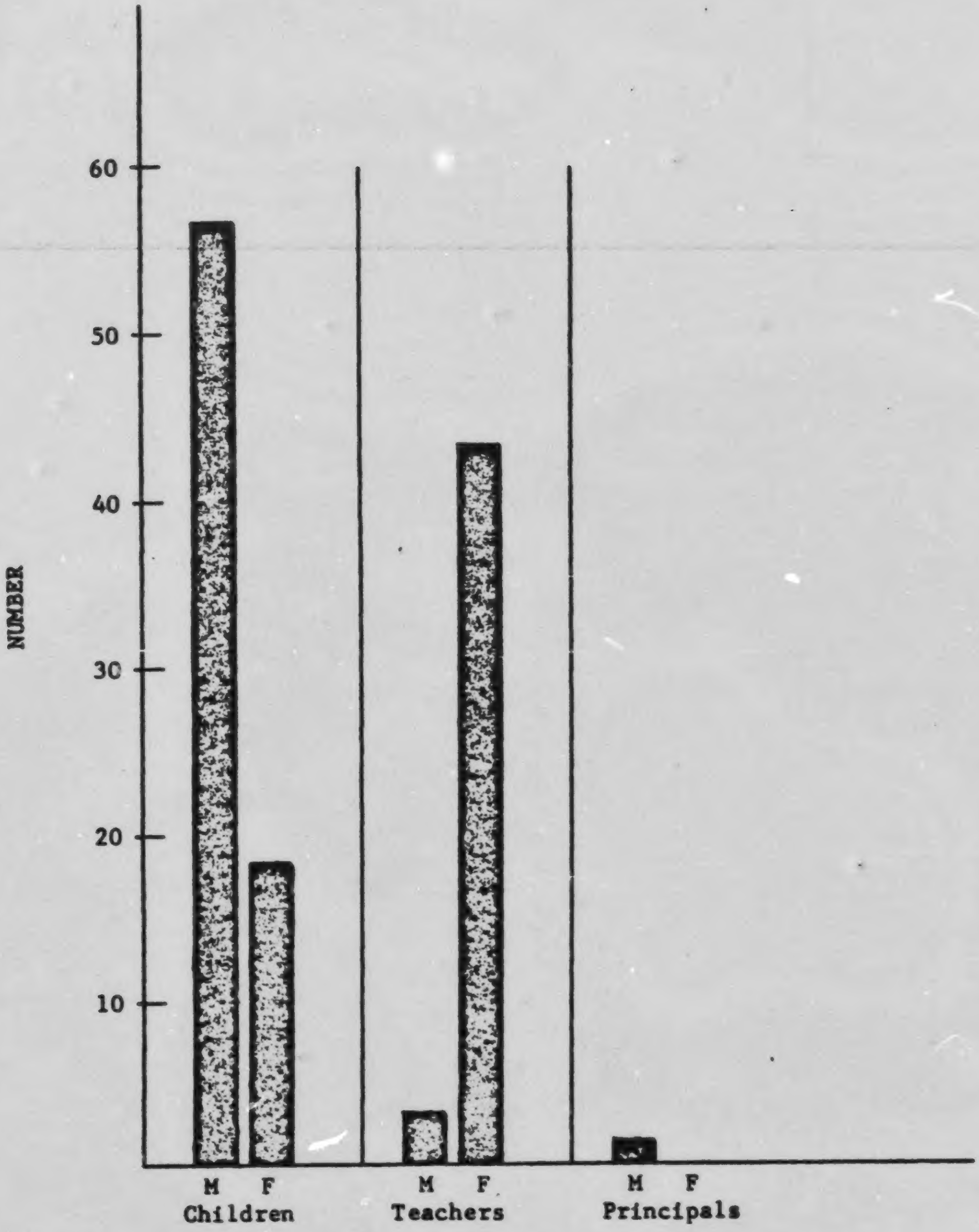

Fig. 2.8
Number of Children Referred, Teachers Referring and Principals Referring by Sex

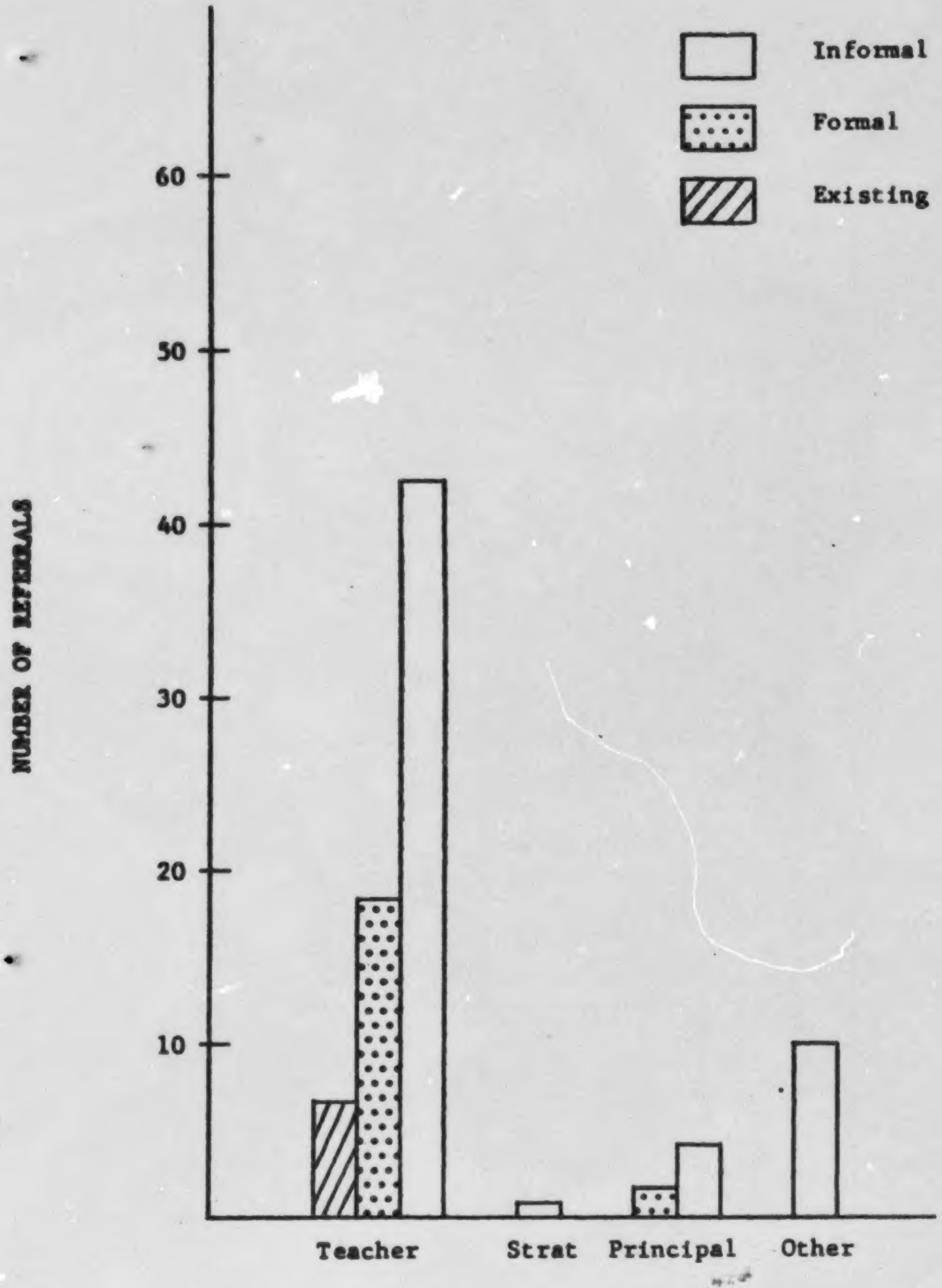

Fig. 2.9
Number of Referrals by Source and Type

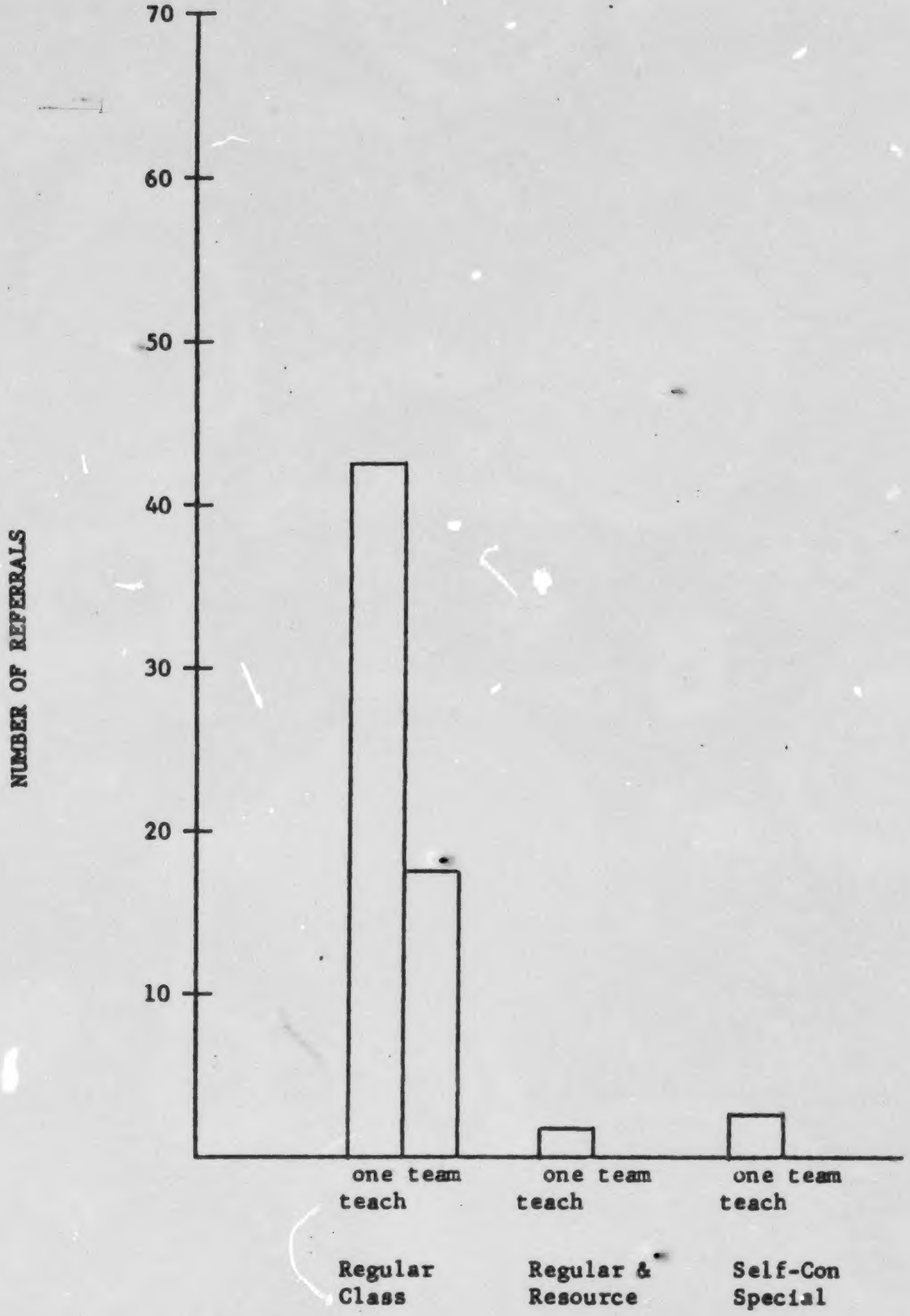

Fig. 2.10

Number of Referrals by Type of Class

was some variation between the number of teachers and stratistician referrals for a specific behavior. The following listing presents key descriptors and the referral sources:

	% of teacher referrals	% of stratistician referrals
Restless	17	10
Nonattending Behavior	15	35
Disruptive Behavior	33	22
Insecure--withdrawn	10	12
Insecure--attention seeking	10	15
Aggressive--acting Out	25	22
Underachieving	33	28

The data suggested some variation did exist in the teachers and stratisticians perceptions. The major differences centered on behaviors which were defined as problem behaviors but were basically nondescriptive. The stratistician who could sit and observe the class tended to notice behaviors such as restlessness and non-attendance more frequently, whereas the teachers responded to disruptive behaviors more frequently. The data base was not sufficiently discriminating to warrant drawing further hypotheses or implications.

An example of the inference problem is the difference between the referred children: stratisticians identified 28 percent as not achieving (performing below the level expected by the teacher) while the teachers identified a slightly larger group of the referred children as not achieving (33 percent). The category of nonachieving seemed quite broad and necessitated considerable further diagnostic information to permit effective curriculum planning or reprogramming. This category, however, raised several interesting possibilities. It seemed useful in terms of the initial description of the broad area of the child's difficulty. The fact that the child was not achieving certainly served as a cue for the interventionist to look into why the child was below par.

This may speak to ineffective curricular programming for the child. Secondly, by definition, the child's performance was not at a level expected by the teacher. Depending, of course, upon what the expectation level was, the teacher's goals may have needed examination. Of additional interest was the fact that the teacher was referring only 33 percent of all problem children for not achieving. This would imply some 67 percent of all referrals were not viewed as having achievement difficulties. This might be indicative of the general frequency of problems in the class which could perhaps be considered psycho-social.

Teachers and stratisticians observation of referred children seemed to result in a cluster of behaviors related to task orientation. The three behavioral categories comprising this cluster were:

1. "Doesn't attempt work" (will not, without considerable pressure, attempt an assignment) was identified as being a behavior for 12 percent of the referred children by stratisticians and teachers.
2. "Doesn't follow directions" (forgetful or does not understand instructions) was a behavior identified for 10 percent of the referred children (by stratistician) to 18 percent (by teacher).
3. "Doesn't complete work" (attempts but does not complete the work, without considerable help or attention) was identified in 15 percent of the referred children (by stratistician) to 17 percent (by teacher).

The first two behavior categories may have suggested a breakdown in task orientation provided by the teacher for the child. These two areas might have indicated a rather specific need for inservice and preservice training. The third behavior category, although somewhat different, seemed related to continuing task orientation. Such an area may suggest that the contingencies were not arranged by the teacher to promote sufficient ongoing task-oriented behavior which caused work completion.

Over the period from September, 1971, through mid-January, 1972, teachers were the primary implementors of intervention strategies (more than 62 percent). The remaining interventions (more than 37 percent) were implemented with nearly equal frequencies by stratisticians, teacher aides, peers, parents, principals, auxiliary school personnel, and community resources. Of these other categories, auxiliary school personnel was the only implementor group that stood out (15 percent).

Two types of intervention strategies were used most frequently: behavior modification was a suggested strategy in 28 percent of the intervention alternatives; and the use of "one-to-one instruction of a single child by teacher, aide, or older student" was used in 18 percent of the interventions. Other intervention strategies occurred with substantially less frequency and with the exception of specific curricula (11 percent), other intervention categories were used less than 10 percent of the time. For all alternatives, the stratisticians formulated 40 percent of the interventions, 39 percent of the alternatives were formulated by a stratistician-teacher team in which the stratistician was the initiator. Using the team approach (stratistician and teacher), teachers were responsible for initiating 11 percent of the strategies. Interventions were predominantly implemented in the classroom (72 percent).

In mid-April, 1972, a summary data tabulation was repeated for 121 children who required extensive help. The major changes in the descriptive data on the referred children indicated that most referrals were between 6 and 9 years old. The data also indicated a heavy cluster of referrals from grades 1, 2, and 3. These isolated data mean little except to pinpoint the age group. Previous data suggested that problems might be referred more often as the child progressed through the first three grades. Another hypothesis was that at different times, different trends emerged in response to system needs; i.e., testing requests. The data tabulation did not support either hypothesis.

In reviewing the data on frequency of referral (i.e., formal, informal, records, existing problems) the tabulation maintained the essentially same pattern as the smaller sample. Referrals were predominantly informal teacher contacts, with less than 8 percent of the stratistician referrals involving problems that were on the child's records or that were previously identified in some other way. The teacher, therefore, remained the primary referral source for children (more than 81 percent).

The data tabulations from the larger sample (N-121, April) on the specific educational problems emphasized the cluster of behaviors, including "restlessness," "not attending," and "disruptive." The initial interpretation of this cluster was strongly supported by these data (along with high frequencies of aggressive behavior as a problem, and the highly frequent use of behavior modification techniques as interventions). Based on this work, it was suggested that all product-oriented thrusts of the project should be related to the needs assessment and to the development of classroom management skills and packages for preservice and inservice training. The resource-support system was similarly engaged in identifying and in cataloging resources in classroom management.

One teacher-related category which was not highly frequent in the January tabulation increased substantially in the April data--the category of "distractable." This increase was accompanied by a similar increase in the frequency with which "short attention span" was noted as a problem. Due to the preliminary nature of the data, inferences could not be drawn. Within these limitations the data did serve as somewhat of a qualitative crosscheck on observations because "short attention span" was part of the definition in the "distractable" category.

"Lack of motivation" also was noted in the second tabulation. As with the "distractable" and "short attention span" behaviors, "lack of motivation" was beginning to appear as a noteworthy problem due to the change in relation to previous data. Even such fragmentary data, however, were considered to provide some guidance for product-oriented activities. For example, with motivation and aggression, information searches were initiated. It was planned that if these data were supported by further data accumulation, these preliminary searches would most probably be recycled into other product areas. If not, they were to become a part of the resource support system and perhaps a bibliography.

The problem category of "not achieving to expectancy" maintained the pattern set by early data as a high frequency area. Some rather distinct changes in frequency occurred in the categories of "doesn't understand task," "doesn't follow directions," and "auditory perception." These categories might be viewed as a cluster of behaviors which are related. Subjective impressions had hinted at the area of auditory discrimination as perhaps influencing these areas. It is worth noting that auditory reception had not been indicated as a frequent problem. This area seemed to warrant closer scrutiny because both the frequency of problems which might be generated by auditory discrimination difficulties and because of the lack of clear implications from the data at hand. A specific information search and allied research project were initiated in response to these field data.

Some change was evident in the April data on interventions. Behavior modification and the use of a tutor were still by far the most frequent intervention approaches, but this trend was even more exaggerated. The resource aide was used with notably greater frequency, as was task analysis and modality change. Implications from these data, though fragmentary, similarly began to suggest areas where teachers needed either help or a skill improvement.

During the 1971-72 school year the stratisticians were involved in extensive interventions with 159 students, an increase of 38 over the mid-April report. The 159 students represented approximately one fourth of the total served directly by the stratisticians.

The largest number of children contacted remained in the 6 through 9 years age range, in grades 1, 2 and 3. Most referrals were for children in the regular classrooms, with less than 4 percent of the total referral list requiring extensive intervention in special education classes.

At least two explanations were available: one, the stratisticians were placed in schools that had no special education facilities. This, in fact, was true in one case, but the other five stratisticians were in schools with other special education resources. A more likely explanation was that the special education teachers could serve their handicapped children with minimal help from the stratisticians, thus the referrals did not show up in the tabulations of extensive interventions by the stratisticians.

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Approximately two-thirds of the children referred and accepted for extensive interventions were male but only 20 percent of the referring teachers were males. This was descriptive data with no inferences suggested.

The referrals usually came from teachers (85 percent) as would be expected. In addition, more than half of the referrals were informal ones, i.e. no written request through established channels. Approximately one-third of the referrals were processed in a formal, written manner, with the other 15 percent coming from existing case loads or records. When a child with behavior problems was referred, most problem descriptions were labeled "disruptive," "not attending," "distractable," "aggressive," and "restless." Although most problems were easily recognizable, there was a substantial number of children who had withdrawal and isolation problems.

The largest single complaint for academic problems was under-achievement. Other academic problems, centered around a general disorganization of academic skills, i.e., "doesn't understand tasks," "doesn't complete work," and "doesn't follow directions." In addition, auditory perception problems and motor coordination received some notice. Many specific problems were indicated, but were infrequent, probably because of the specificity of the category and that one of the larger, more general categories was more appropriate.

The usually suggested interventions were tutoring and behavior modification procedures. Parent conferences and recommending an aide were also suggested in many cases.

Stratisticians scored the success of the intervention on the child's performance. The rating was on a 6 point scale, ranging from little change (rating of 1) to solution (rating of 6). Approximately 10 percent of the interventions produced little change, while 15 percent were rated as 2 and 3. The largest group received a 4 (33 percent), while 2 percent received a rating of 5 and 5 percent were judged effective since the problem was solved. Follow-up plans were readied to gather data on these children over a two-to-five year period.

The data collection process that was initiated and produced the above data did begin to follow the plan of implementation of the assessment of classroom needs. A general summary of the data was not developed, nor was the initial work refined or expanded into an active guidance element for center activities. The stratistician model slowly evolved into a service model and the data collected became more removed from the original purpose as will be discussed in the next section.

Identification Assessment

The second objective of the stratistician model was to help locate the 40 percent unserved handicapped children. It was intended to undertake this indentification as part of the ongoing data collection effort of the stratisticians. This procedure never worked out on an ongoing basis, hence a study was designed to collect data. The study complemented an assessment effort by the Utah State Board of Education to identify all handicapped children in the state's school system.

The USBE assessment effort (Project ID) utilized the classroom teacher as the initial screening agent in the identification processes by reporting the names of all students who, according to teacher perceptions, were handicapped. A pilot study of this identification technique in May, 1971, in the Salt Lake City School District, indicated that 80 percent of referred students were, in fact, handicapped as defined by placement standards of the USBE and as determined by the results of a test battery administered by a competent school psychologist.

This identification program was expanded to a full-scale identification effort during the school year 1971-72, with all districts participating (Nelson, 1971). The assessment instruments were improved from the initial effort, but the same procedure was used. From the referred students a random selection was again made and identification tests were administered. The correct identification of handicapped children by teachers increased to 90 percent using the improved instruments.

Simultaneously with the Project Identification study of 1971-72, the RMRRC began the unrelated demonstration program that was designed to deliver services to handicapped children in regular classrooms. The service delivery system of the RMRRC placed a statistician in a regular school on a full-time basis. The stratistician was expected to provide assistance and advice in dealing with "problem" children through teacher focused classroom intervention. Five stratisticians were placed in five elementary schools during 1971-72. It was assumed by the RMRRC that those children referred to the stratistician by a teacher's request would be handicapped. It was hypothesized that a comparison of state Project Identification roles and the roles of students referred to stratisticians would be identical.

Contrary to this hypothesis, of 320 students served by stratisticians, only 162 were listed on Project Identification rolls or were already in other special education programs. Of students served by the stratisticians, 158 were not listed as handicapped on any state roll. By implication, the unidentified 158 students referred to the stratistician were not perceived by the classroom teacher as handicapped. It was then asked why these 158 students were referred to the stratisticians. In an attempt to provide the answer, a study was undertaken, describing the students referred to stratisticians but not included in Utah's Project Identification nor on special education program rolls.

The 158 unidentified students were distributed in four schools. A sample was selected consisting of all 19 students in one school; 25 percent of the population of the remaining three schools (17 additional students) was randomly chosen for psychological evaluation. The 36 student sample represented 22.8 percent of the unidentified population, and included children with a chronological-age (CA) range from five years, ten months to twelve years, six months in grades from K to 6. A breakdown of number of students by age and by grade placement is presented in Table 2.1.

Several tests--Weschler Intelligence Scale for Children (WISC), Bender-Gestalt, and Draw-a-Person--were administered to students in the sample. This test battery was used by the USBE for identifying youngsters in Project ID and was adopted by the RMRRC to make comparable evaluations. The Bender-Gestalt was scored by the Koppitz method (Koppitz, 1963). The Draw-a-Person was scored by both Goodenough-Harris and Koppitz methods (Koppitz, 1968). Both the Bender-Gestalt and Draw-a-Person yielded scores for

Table 2.1 Age and Grade Placement of Students

	Age			
	5-6 to 5-11	6-0 to 6-11	7-0 to 7-11	8-0 to 8-11
N	1	5	4	5

	Age			
	9-0 to 9-11	10-0 to 10-11	11-0 to 11-11	12-0 to 12-6
N	5	6	8	2

	Grade						
	K	1	2	3	4	5	6
N	2	5	8	3	6	8	4

intellectual maturity, brain damage, and emotional difficulty indicators.

A competent psychometrist in a single sitting administered the test battery in a minimal distraction room. The tests were given in the following order: WISC, Bender-Gestalt, and Draw-a-Person. Standardized test presentations were followed.

Of the thirty-six evaluated students, twenty-four (66.6 percent) were identified as learning disabled*, eight (22.2 percent) as emotionally disturbed, two (5.5 percent) as mentally retarded, and three (8.3 percent) as nonhandicapped. One child was identified as LD and ED because of the severity of both problems; therefore, for these data, N=37 and the total percentage exceeds 100 percent. Within the LD group, 25 percent of the students displayed above normal scores on the WISC greater than or equal to 110. Another 45.8 percent of these students exhibited IQs within normal limits, with a full-scale score on the WISC between 90 and 110. Of those children identified as learning diabled, 29.1 percent displayed below normal intelligence (full-scale score below 90). Of this subject population, 70.8 percent were shown to have normal or above normal intelligence.

The protocols of the LD students were interesting. Of the subjects, 33.3 percent had at least a 15 point difference between the two scores, with the verbal score being the lower. Only 8.3 percent showed a performance score lower by 15 or more points. Less than a 15 point difference in the two scales was exhibited by 58.3 percent. The higher performance scale in individuals with an exceptional number of errors on the Bender-Gestalt was of special (but unresolved) interest as it represented a paradox, and invites speculation about this population.

The ED population (N=8) also was extremely interesting. Three youngsters (37.5 percent) were identified as ED with LD characteristics. Two of these youngsters had superior intelligence (IQ-123 and 133). Further, the child who was identified as both ED and LD produced an intelligence measure of 133.

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*The USBE definitions of handicapping conditions were used.

Within the ED population, without LD characteristics, a total of five students yielded only one below average IQ (86) and one average IQ (93). All others were above average.

The referral of nonhandicapped children was discussed with the appropriate stratisticians to try to determine the cause of the referral. Explanations ranged from a teacher-student personality conflict to "other children in the family have been problems," and "the teacher thought the child should be referred as a cautionary move." The stratisticians' subjective evaluation of these referrals indicated an inappropriate teacher perception of the student.

The LD and ED referrals of this study were not [illegible]o easily explained. Nor was it immediately obvious why these students were not perceived as handicapped by their teachers. The stratisticians were, again, interviewed for subjective impressions about these students and the reasons for their referrals. The stratisticians were questioned on student academic achievement, particularly with those students whose full-scale IQ scores of 115 or more were considered LD or ED with LD characteristics.

Stratisticians' statements about the referral conditions included the following comments: "He was daydreaming," "She (the teacher) doesn't know how to manage that child," "He was creating a behavior problem for the teacher. We moved him to Mrs. _______ and we've had no more trouble." "That little fellow has a hard time controlling himself." Academic achievement was described in such terms as: "He's a little slow in reading, but he's making it," "At grade level, at least," the students with above normal intelligence were all described as achieving at grade level. Neither stratistician nor teacher perceived these students as having a learning disability although the stratisticians, after viewing test protocols, concurred with the psychometrist's evaluation.

The group of school children displaying learning disabilities has been the subject of much discussion and research. Generally, the term "learning disabled" has been applied to a child who displays an IQ on either the verbal scale or the performance scale of the WISC from 90 to 110, and a score 15 or more points below the higher score on the remaining scale.

The typical LD child is retarded at least one-grade level in reading or arithmetic (Reed, 1967; Reed, 1968; Blank & Bridger, 1964; Brich & Belmont, 1964; Belmont & Birch, 1966; Sabatino & Hayden, 1970; Silver & Hagin, 1966). For those children displaying reading retardation, the typical pattern on the WISC has been a lowered verbal scale as compared to performance scale (Reed, 1968; Blank & Bridger, 1964).

The group of normal and above-normal intelligence, LD and ED designated students, who were referred to the stratisticians, displayed definite indicators of learning problems and emotional disturbances. Even though those students had been achieving academically at or above grade level does not alter the fact that they may not be achieving their potential. Although the very bright child with learning disabilities may be able to cope with classroom activities, a high intelligence level may mask the child's disability from the teacher and the special education expert, preventing remediation. Faced with the gap between their potential and real achievement, these bright youngsters may retreat with defense mechanisms and increased emotional maladjustment. Coping may be achieved at the expense of emotional adjustment.

This study concluded that the results should alert the special education practitioner to difficulties in teacher referral of "handicapped" children. Teachers participating in Project ID were accurate in their reporting of children who they considered were handicapped. A 90 percent accuracy indicated that few referred students were, in fact, nonhandicapped. However, the results of the RMRRC study of stratistician referrals suggested that the lists of handicapped students did not include all handicapped students. Although in this study the students were referred to the stratisticians as children with a problem, it is possible that in the absence of a stratistician-type service, no special planning or programming would have been implemented. It was recommended that future identification projects should accommodate to this problem by assuming that some handicapped students will not be referred, or by broadening the screening instructions to include all potentially handicapped children. The second alternative would lower the level of accuracy of identification, but should result in delivery of services to more children.

While the number of subjects in the study was, admittedly, too small to allow for more than speculation, it appears that LD students and ED students with normal or above normal intelligence (as measured on the WISC) were achieving at or above grade level, and were not perceived as handicapped students because of adequate academic achievement (as indicated by grade level performance). The child's coping attempts may have resulted in emotional disturbance that lowered his psycho-social adjustment level as well as his academic level.

Administrative Evaluation of the Stratistician

To gain a perspective in the administrators' reaction to the stratisticians, a questionnaire was administered to principals of schools in which stratisticians were placed. The responses are tabulated by the questions and the numbers relate to a specific principal; i.e., all numbers 1 were from the same principal.

In what ways has the work of the stratistician been helpful?

1. The stratistician has worked with teachers on problems such as positive reinforcement, voice and tonal qualities, curriculum adjustment for specific children, behavioral modification of specific children, plus served as liaison between resource personnel and classroom teachers and backup and support for the social worker.

2. The stratistician has improved teacher attitude toward students, upgraded teacher discipline methods, and improved remedial activities.

3. The stratistician has assisted teachers in identifying, diagnosing, and planning strategies for children with learning disabilities, and has supplied support for teachers with innovative classroom practices.

4. The stratistician has helped all.

5. The stratistician has solved student problems,

such as helping the student see himself as a productive citizen. He has given teachers a valuable resource that is readily accessible, and has provided a basic security as a nonjudgmental person to whom the teachers can talk.

What are the limitations?

1. Each staff member has been different and the problem has been defining a specific role. What do the RMRRC people expect of the stratistician? What has been the role? A future limitation is that the stratisticians need to be a special kind of person. There should have been planned activities away from school in the summer.

2. Specific definitions of a role will limit the effectiveness of a competent stratistician.

3. Time. There have not been enough hours to do everything that is necessary. I fear we have been working our stratistician to death.

4. The stratistician has been limited by the temporary nature of our half-day school sessions; by putting ideas into practice and by working through the resistance of some teachers.

5. The acceptance by most teachers has made it difficult for the stratistician to meet requests and expectations. It is surprising the number of conferences that have been voluntarily requested to discuss personal problems of the school staff.

What recommendations do you have?

1. The stratistician should be continued in the school for more than just this year.

2. Inservice for teachers should be focused on learning process, rather than curriculum.

3. The role of the stratistician should be left up to what a "good" one sees as needed in the situation.

4. The same number of stratisticians in the same schools should be continued.

5. The program should be kept going.

In what ways have other RMRRC staff members been helpful?

1. They have been helpful in writing programs, and helping teams.

2. I don't know specifically. However, I do know they are available.

3. They have been helpful to our stratistician by supplying information and/or material.

4. They have provided educational benefits to me.

5. The exchange of ideas and experiences has given a continous flow of new ideas and support for the meeting and handling of situations within our school. Visits to the school by members of the RMRRC have been enlightening and educational. Their observations and comments have been both accurate and helpful. More visits would be welcomed.

Are you aware of what the RMRRC staff can do?

1. I realize that help can be obtained upon request.

2. Haphazardly.

3. Yes.

4. Yes and no.

5. (No response.)

What recommendations do you have?

1. They should help plan academic units for children with learning problems.

2. I would like the names and specialities of each staff member with role descriptions.

3. The principals should be told of the RMRRC

staff's availability and of the areas in which they can help.

4. Perhaps a better understanding of the RMRRC program is needed by district specialists. I suppose we have not been using staff people to the extent we could have; possibly there is fear on our part of bypassing district psychologists, etc.

Are the needs of handicapped children being met?

1. Yes.

2. No, but some progress is being made.

3. In our situation we have special education classes which are immediately available for the noticeably handicapped. However, more can be done with borderline cases.

4. Better than ever. We are attempting to serve everyone, but there are still some obvious needs that are not being met.

5. More so than I have ever seen before. Teachers are more aware of helping these students and there is more willingness to treat these students within the classroom.

What are the limitations?

1. Time and resources are limitations. Also teachers are not skilled enough to handle problems.

2. None.

3. The lack of aides and specialized materials are limitations.

4. (No response.)

5. (No response.)

What recommendations do you have?

1. None

2. Because of the personality of the present

stratistician, I have seen very few limitations, but I do foresee a need for a definitive role.

3. I would recommend inservice for teachers; for example, the Norma Randolph Self Enhancing Education workshop that was given to RMRRC staff members.

4. (No response.)

5. (No response.)

The responses were generally favorable to the use of the stratistician in the school, but a precise definition of the role was requested. The poor role definition level led to an overreliance by teachers on the stratistician, causing an overload of the stratisticians. The linkage to the RMRRC and its support was apparently not clear to administrators, and better inservice training programs were requested. The feedback loop to development of resource programs obviously was not working effectively.

In addition to this data collected from the questionnaire, the RMRRC received requests for participation in the stratistician program from several districts who were not involved. These requests reinforced the positive beliefs held by RMRRC staff members of the value of the stratistician model. However, it was felt that the pilot program must be kept to a size which could be easily observed, measured, evaluated and changed, if change were indicated. Also, clear-cut role definitions for the stratisticians had to evolve throughout the year, and would involve intense and immediate communication between office staff members and field workers. Frustration arose from the immediate needs conveyed by those requesting participation and the expansion limitations. Careful public relations had to be maintained to communicate the RMRRC goals of supporting and facilitating educational improvement, while limiting the pilot project to a workable level.

The ambiguity of the evolving stratistician role, while not a serious problem, remained an ongoing challenge; the needs for structure and role definition were felt, but could not be specified. Those persons chosen for stratisticians were open and nonjudgmental, traits which seemed to include tolerance for ambiguity. After the end of the second year, the actual needs of teachers and of handicapped children dictated the stratistician role, while evaluators tried to maintain data collection. This stratistician role, if it proved successful, should be more easily filled in the future, once the qualities, behaviors, and skills needed were more clearly defined.

Chapter 3

STRATISTICIAN STAGE TWO, 1972-1973

At the end of the first year of placement of stratisticians, two of the original six were reassigned to positions in the RMRRC office and a third left the state to pursue a doctorate. In addition to those three openings, two more were created when the RMRRC decided to try the model in a school with a heavy minority population and in two rural schools in a rural district to be served by one stratistician. The selection criteria for stratisticians again required a strong background in special education and/or educational psychology and the defined personal attributes. Because of the one year's experience with stratisticians, the RMRRC provided better job descriptions for the applicants and structured interviews on the problems the stratisticians would face. Again, an attempt was made to get the best possible personnel available to assure the success in the stratistician's variety of roles.

Those stratisticians who had just completed a year of service briefed newly hired personnel on activities and problems. Informally the "new" stratisticians assessed their own capabilities either by working on their own, or with another staff member, and they individually improved their skills. The major group activities focused in two areas: 1) the development of an instrument that would enable a classroom observer to record events of educational significance in sequence, and 2) the simulations of possible classroom incidents.

The observation instrument grew out of the need for gathering classroom information. It was developed by using stratisticians' individual ideas, reviewing the literature for models and theories, and combining the creative resources of these highly skilled people. It was named the "Systematic Observation of Behavior" (affectionately called the S.O.B.).

Derivation of the items in the observation code was not a product of model theory nor a deductive approach to climate analysis of the classroom. Rather, the development was based upon the following parameters, which have contributed to the code structure in its current form:

A. *Empirical Information*: "Units" of behavior were generated from observed and itemized data, descriptive of actual responses or activities within the regular classroom. Behaviors of both student and teacher were accountable, and subjective or interpreted information was not recorded or considered.

B. *Frequency of Occurence*: Although an inefficient number of specific items were produced by this method, the terminal items were those which commonly remain stable because of the number of times they occurred in a sampled observation continuum. Those units occurring with less than 5 percent frequency were discarded. Retained items resulted in the final 10 categories and subsumed sub-categories.

The rationale for the S.O.B. development was predicated on the desire for a utilitarian, yet non-categorical instrument for informal observation. Pertinent to the development of the instrument was a desire to construct an instrument that removed the stigma of categorization in diagnosis. With this tool, the needs of a child could be assessed on an individual basis without placing him in a traditional mold.

As previously stated, the essential elements of informal diagnosis were compiled and integrated through an empirical method in developing this tool. Because the instrument was developed by direct classroom observations, the yielded information would be highly relevant to the classroom teacher. For the teacher as well as the observer, the instrument would provide a factual schema of the child in his mainstream environment. Consequently, the S.O.B. was seen as providing a common communication base between the teacher and the observer in talking about children; it would allow for ready interpretation prior to developing interventions for desired outcome skills.

Again because its codes were meaningful to a teacher, the instrument would be learned readily. The information yielded by this instrument could prove useful in reinforcing and expanding teacher and/or observer skills. It promised to become a highly useful inservice tool for teacher self-assessment or for recording behavior change.

The code recorded various types of student-teacher interactions. The instrument was structured so it had multi-dimensional application. Interpretations were yielded on any of several preselected dimensions. This adaptable informal instrument promised to provide short-cuts in evaluating academics, behaviors, and learning modes on specific teacher-student interactions. Encouraging the teacher or specialist to informally assess behaviors of children and develop appropriate interventions may have reduced the numbers of referrals sent to psychologists for formal assessment.

As field studies progressed, the instrument was visualized as encouraging further exploration into the utilization of informal diagnostic approaches.

Sample items and recording code are listed:

A	Accepting
AA	Assumes Authority
AK	Acknowledge
AK-	Teacher ignores
AMP	Amplifying
AP	Appropriate
AR	Accepting with reinforcement
ARG	Arguing, Disagreeing
BB	Blackboard
BK	Book
BOT	Back on task
BO	Blaming other
BS	Blaming self
CA	Calling for attention
CAU	Caution
CC	Call for confirmation
CHB	Chair behavior
CL	Clues

After the S.O.B. instrument was developed during the training period of the second group of stratisticians, the evaluation and research group analyzed it. A pilot reliability study was initiated, using two raters. The preliminary results indicated a low-interrater reliability, and further reliability checks were discontinued as the regional effort had been initiated and core staff members turned their attention to working with three new states. This outcome of the S.O.B. instrument is a strong data point stressing the value of planning and coordination in the operation of a complex center.

The Stage Two activity generally reflected a decrease in data collection for analysis of the stratistician as a service delivery model. Concurrently, the needs assessment function and the use of the RMRRC as a resource declined. The stratistician became more of a direct service agent within regular schools in the region.

Stratisticians were placed in the same five schools and one multi-district region that were used in the preceeding year. In addition two new placements were made; on stratistician was placed in a school with a high minority population, and the other in a rural setting with the stratistician serving two schools. New people replaced the two stratisticians who were given other assignments. The transition from a person who "pioneered" the model in a school to the "stranger" who takes their place was studied. The arrangement with the multi-county service region was maintained, but a new person in the service unit replaced the original stratistician who left to pursue a doctorate. The geographic locations of the placements are presented in Figure 3.1.

Essentially the same subjective results were reported by the RMRRC staff as after the first year. The districts and schools were enthusiastic about the service. A large number of students benefited directly and a large number of teachers received inservice training for skill improvement. This second year's experience reinforced the previous year's information that the necessary skills fell in the categories of diagnosis, prescription, knowledge of programs, evaluation and human interaction skills. It also reinforced the notion that there was a large number of mildly handicapped students in regular education classrooms who needed special education and the stratistician was a cost-effective way of delivering services. The preceding overview of the results of the services provided in 1972-1973 were based on subjective judgments by RMRRC staff members and district administrators and principals of stratistician schools.

The difficulty of "serving two masters" still

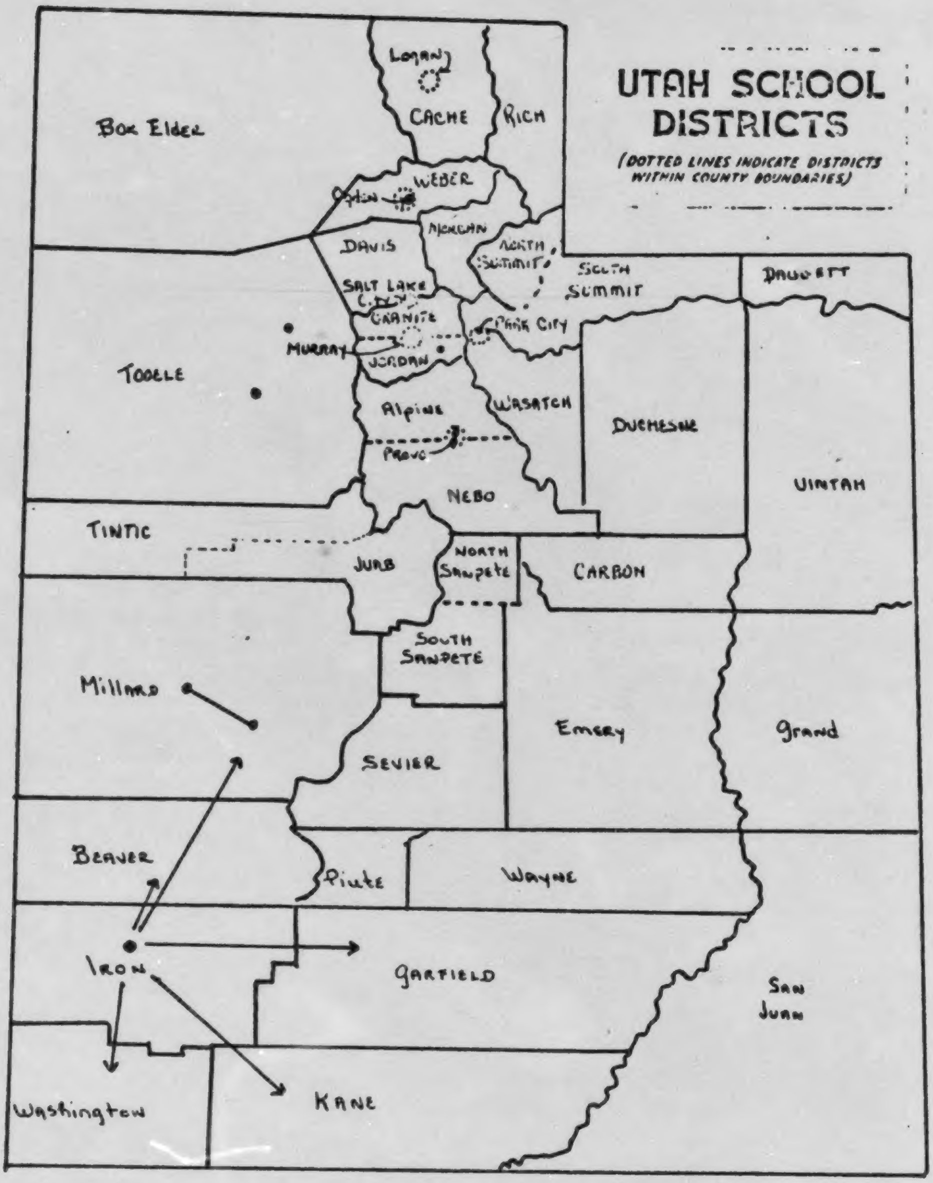
UTAH SCHOOL DISTRICTS
(DOTTED LINES INDICATE DISTRICTS WITHIN COUNTY BOUNDARIES)
Box Elder
Logan
CACHE
RICH
WEBER
Ogden
MORGAN
DAVIS
NORTH SUMMIT
SOUTH SUMMIT
DAGGETT
SALT LAKE CITY
GRANITE
PARK CITY
MURRAY
JORDAN
TOOELE
Alpine
WASATCH
DUCHESNE
PROVO
NEBO
UINTAH
TINTIC
JUAB
NORTH SANPETE
CARBON
SOUTH SANPETE
Millard
SEVIER
Emery
Grand
BEAVER
Piute
Wayne
IRON
GARFIELD
SAN JUAN
Washington
KANE

Fig. 3.1

Location of Stratisticians, 1972-73

remained a complaint of stratisticians although the time the stratisticians spent at the RMRRC was reduced to every other Friday. The major problem persisted --that of gathering data to objectively evaluate to the model and to also provide service. The provision of service continued to be the key factor in the stratistician's role.

The provision of service between the two schools in a rural school district by a single stratistician did work, but needed adjustments. Ideally an assigned person in each school would have been helpful so he could carry out the responsibility of maintaining the programs initiated by the stratistician when the stratistician was in the other school. It also would have been helpful if both schools allocated the time based on the needs of students. The continued experience with the multi-county service unit served by a single stratistician again demonstrated that some service is probably better than no service, but it was unrealistic to expect impact from someone who is serving over 50 schools in a large geographic area.

Generally, after two successful years with the model, the dilemma still existed as to whether or not the success was due to the design of the model or to the uniqueness of the individual stratisticians.

Some data on the services provided by the stratisticians were collected using the data form shown in Figure 3.2. The stratisticians provided individual educational services to 370 elementary school-aged children. In addition, another 200 children were served directly by the stratisticians in group situations. This made a total of 570 children who were seen directly by stratisticians. Of this total, approximately 100 children were members of minority groups (approximately 10 were Black and 90 had Spanish surnames).

The children served directly were typically children with specific academic or behavioral problems, for whom programs were designed and implemented in the classrooms or through direct work with the stratistician. The severity of the handicaps varied from mild educational problems to rather complicated educational, emotional, or sensory difficultics. Based on the operational definition of severly handicapped as those children typically not served in public school programs, the stratisticians generally served less severely

School: ______________

Date: ______________

Individual or Group	Referral Date	Diagnostic work	Other individual or small group work	Recorded observation	Instructional or Behavior Programming	In-Service Training(aides, teachers, parents,others)	Tracking	Media Acq. & Preparation	Public Relations	Professional Development	Administration Duties		

Fig. 3.2 1972-1973 Data Collection Form

involved children in all categories.

The services were provided by eight stratisticians working in roughly three different situations. As defined earlier, six stratisticians were assigned to one school each and functioned totally within that school. One stratistician split his time between two schools in a rural district in central Utah. The eighth stratistician was assigned to a six-county (six-district) region in southwestern Utah. Theoretically, this regional stratistician had responsibility for 52 schools in the six districts. In each different situation students were referred directly to the stratisticians by the teachers, principals or other school personnel. The stratisticians typically reviewed school records, observed the child in various situations, administered various standardized and criterion referenced instruments, shared the results with the interested persons (teacher, principal, parents) and participated as a member of the team that planned and implemented the program designed to assist the handicapped child. The first priority was to try to implement the program in the child's regular classroom with the teacher managing the program, rather than the stratistician providing the child individual assistance external to the child's regular education setting.

It was estimated that approximately 1,500 handicapped children, representing a cross-section of categorical types, received indirect services from the RMRRC during the 1972-73 school year. These figures were obtained by taking 16 percent of the number of children in schools served by the stratisticians. This estimate was based on the USBE's estimate that 16 percent of the school-aged population has educational handicaps. Further, the stratistician provided indirect service through inservice training and program planning with practically every teacher in the participating schools plus assistance to parents and other school district personnel, such as school psychologists, social workers, and nurses.

Direct referrals to the stratistician were the basis for service to almost all of the 570 children served directly. The overwhelming majority of referrals came from teachers. Some referrals, however, came from principals or parents. The sources of referrals undoubtedly were a function of the way stratisticians worked within a school and their relationships with the faculties. Additional formal diagnosis of 36 children was provided in stratistician schools by center staff.

Seventeen children were referred to the center from schools without a stratistician. Each child was visited in his school environment, diagnosed and/or programs developed and follow-up provided by center staff. Eligibility for those services was based on need and because no other existing personnel or agencies were available.

Parent services were extended primarily to those whose children were in the participating stratistician schools. Approximately 150 parents were provided direct service by the stratisticians. Most contacts were individual, concentrating on the parents' particular children, but some assistance was given to small groups of parents meeting on a regular basis.

The referral for entry into the stratistician service program was represented by the following general outline.

I. Classroom Performance: (initial teacher referral):

   A. Description of performance on school tasks.

   B. Descriptions of curriculum and/or method/materials being used with the child.

   Response:

   --Interpretation of information

   --Recommendations based on information

      1. Make change within classroom curriculum or procedure, and therefore no need for further referral;

      2. Indicated further diagnosis (what and where).

II. Informal Diagnosis:

   A. Description of informal testing done and performance noted:

   Response:

   --Interpretation of the findings from diagnosis.

1. Assign priorities to the difficulties found.

--Recommendations:

1. Specific remedial procedure and/or

2. Formal testing (if so, which types of tests are indicated).

Note: Depending on recommendation, the order of III and IV may be reversed.

III. Remediation--Stage one:

A. A concise statement of techniques and materials used and results. This statement would be made in terms of short-range and long-range remedial goals.

B. Statement of any change during this period.

Response:

--Interpretation of the methods employed (that is, why a certain technique or material was used), and the results achieved.

--Recommendations:

1. Continue remediation on same problem with same end goal.

2. Shift remediation to different problem with same (or different) end goal.

3. Do formal testing--if so, what tests and for what information?

4. End remedial procedures.

IV. Formal Diagnosis:

A. Presentation of test results, data, examiner, etc. in tabular form.

Response:

--Interpretation (will follow each of the formal tests given) of test results,

1. Confirming information with other tests or data.
2. Indicating specific remedial procedures.

--Recommendation (may come at end of entire section on formal diagnosis)

1. Indicate specific remedial suggestions.

V. Remediation--Stage Two:

A. Same as remediation Stage One.

Note: From this point the format would vary, alternating between additional stages of remediation and posttesting results and procedures.

VI. Prognosis:

VII. Background Information:

A. A concise statement of such factors as family, environmental, school and medical history, etc.

--Interpretation

1. Which of the above factors are essential for the teacher to know in order to work effectively with this child's learning problem?
2. What diagnostic-remedial procedures and/or interpretations would you have changed had you been cognizant of all of these factors?
3. Has your prognosis changed as as result of this information?

During both Stage One and Stage Two, the individual stratisticians evolved service patterns to meet the needs in the individual schools. Some examples of the activities initiated by the stratisticians included regularly scheduled meetings for parents of handicapped children, an after-school Spanish club for Chicano children, and active participation in a community based organization dedicated to improving all educational services.

An example of another stratistician-initiated service comprises Appendix B: A Cross-Peer Tutor Program. This program was established in response to the school district's efforts to move most handicapped children into the mainstream. The teachers felt unprepared, and the tutor program helped in easing the increased differentiated class load for the teachers.

The tutorial program accomplished more than its goals. Forty-four tutors were placed in classrooms, and each worked with one to ten children. Every class from kindergarten to fourth grade, including the special education class, had a cross-peer tutor. More than 100 children were served directly. Advancement of some kind was reported for nearly every child.

Of the beginning tutors, 33 were still tutoring on the last day of school. Six had moved, two dropped out voluntarily and three were removed for not abiding by the contract agreement. The remaining 33 tutors had favorable reports from their teachers and parents. They became class leaders, were more organized, more responsible and had high class performance. A high school tutorial program was established based on the same format. The fourth, fifth and sixth grades were served by the older tutors. It, too, was reported as a success by the school and the high school.

Primarily, the program won acceptance for the mainstreaming of handicapped students. Tutors had an important status in the school and the job was sought by other students. Teachers felt they had been relieved and helped and were willing to open their class doors for more assistance. On "Special People Day" all the tutors were honored by the entire studentbody. Twelve tutors received special awards as the most significant contributors to the school.

The analysis of the 1972-1973 program by the RMRRC staff indicated that if the stratistician role were to be validated as a service model, a population of special educators selected by and part of the public school system would have to be identified and utilized in a stratistician role for field verification. This decision was made on the basis of the wide field acceptance of the center stratisticians and the concern that this acceptance was based upon these individuals' unique capabilities rather than upon the service role description. In light of this decision, Stage Three of the stratistician model was planned.

Chapter 4

STRATISTICIAN, STAGE THREE, 1973-1974

In addition to field testing the stratistician service model in 1973-74, the RMRRC staff continued to work on solving some of the same difficulties reported during the first two years of operation (1971-73): to utilize the experience base to identify the competencies of a stratistician, and to develop a training program for those competencies. The strategy (elected to address the question of whether it was the selection of highly skilled, unique individuals and specific placements that made the model work) was to invite the majority of the state's school districts to pilot the model with their own special educators in their own schools. Thus the selection of the person and the school site would become the choice of the districts and hopefully more representative of a "real world" situation. The selected strategy for solving the problem of "serving two masters" was to have the districts hire and pay the special educators (stratistician/generalists) involved. In order to reduce the time the stratistician/generalists would have to spend out of their schools, the RMRRC meetings were reduced to one per month. The eight RMRRC stratistician placements of the previous year, both in single schools and in the multi-county region, were discontinued.

The district selection process for the field test began with a letter to most Utah districts from the USBE Deputy Superintendent for Instructional Services. The letter briefly explained the stratistician/generalist program and invited districts to respond to the RMRRC if they were interested in complete details. (Some administrators at the USBE, both in regular and special education, had participated from the first planning meetings that led to the stratistician model, and had followed the progress of and supported the stratistician program.)

The inducement for the districts and the special educators to be involved in the stratistician program in 1973-74 was that the RMRRC would provide two weeks training for the selected special educators, per diem and travel expenses while they attended to training sessions, plus a stipend. The RMRRC was to provide to the schools and the districts copies of all data collected by the RMRRC at the RMRRC's expense. In addition, the RMRRC was to provide a staff member to meet at least twice a month in each special educator's school to provide any follow-up training or necessary assistance. The role of the RMRRC staff person was to serve as an "intermediate stratistician" to the special educators, who were called "stratistician/generalists." Three intermediate stratisticians provided this backup support for up to six stratistician/generalists each.

The intermediate stratisticians were selected from the preceding year's stratisticians. The stratistician/generalists were selected by their district director of special education or someone in an equivalent position, based on district-established criteria. In some smaller districts, the person may have been the only special educator in the district. Some of the larger districts chose to send three persons.

The districts that participated with the RMRRC were selected on their desire to be involved, on their willingness to cooperate in the evaluation requirements of the project, on their willingness to release the stratistician/generalist one day a month to attend RMRRC meetings, and on the availability of their selected stratistician/generalists to participate in the training sessions before school started in September, 1973. Of the 21 districts that expressed an initial interest, 11 agreements were completed. Because some districts asked to send more than one person, a total of 17 stratistician/generalists participated from those 11 districts.

The training was based on the skills and competencies identified during the two previous years with the stratisticians in the field. The major content areas included: identification, diagnosis, prescription, programming, evaluation, and interpersonal skills. These areas were broken down into process levels of knowledge, comprehension, application, analysis, synthesis, and evaluation. Learning modules were constructed to fit on a content-process matrix. The training materials were constructed on a performance base to individualize the training program based on the needs of each participant in each content area.

A more detailed explanation of the training program provided to the generalists is presented in Chapter 6.

The stratistician/generalists were placed by their districts. The intermediate stratisticians were assigned based on geographic considerations. The location of the stratistician/generalists is depicted in Figure 4.1. The majority of programs were located within a 75-mile radius of Salt Lake City. A tabulation of the program by location, distance from the RMRRC, type of program, background of stratistician/generalist, and the number of children in the service population is presented in Table 4.1.

The transition from the service delivery type of stratistician of the two previous years to a two-tiered structure was a major change in the stratistician model. The intermediate stratisticians at the RMRRC became linkage agents between the resource system represented by the RMRRC and the actual providers of services in schools (stratistician/generalists). In terms of operations relative to direct service to the instructional process through teachers, the school-based stratistician/generalists assumed the role the stratistician had played in the schools during the 1972-73 school year (Stage Two Model).

The intermediate stratistician was envisioned as providing training and back-up support to the school-based stratistician/generalists. The training was to include workshops, monthly training meetings, on-the-job training during two monthly visits to each school, and back-up support as needed on specific problem cases; the intermediate stratisticians were also to serve as a link to regional and national resources through the RMRRC. Relative to the schools the intermediate stratisticians were itinerant resource persons who did not provide any supervisory or regulatory function.

The intermediate stratisticians were also to serve as a training resource to the Outreach program of the center, and respond to requests from LEAs, SEAs, or universities or colleges in the region for workshops and/or presentations. The intermediate stratisticians' role grew into more of a training role with a secondary resource consultant function, rather than the direct service activity that was provided as part of the Stage Two service model.

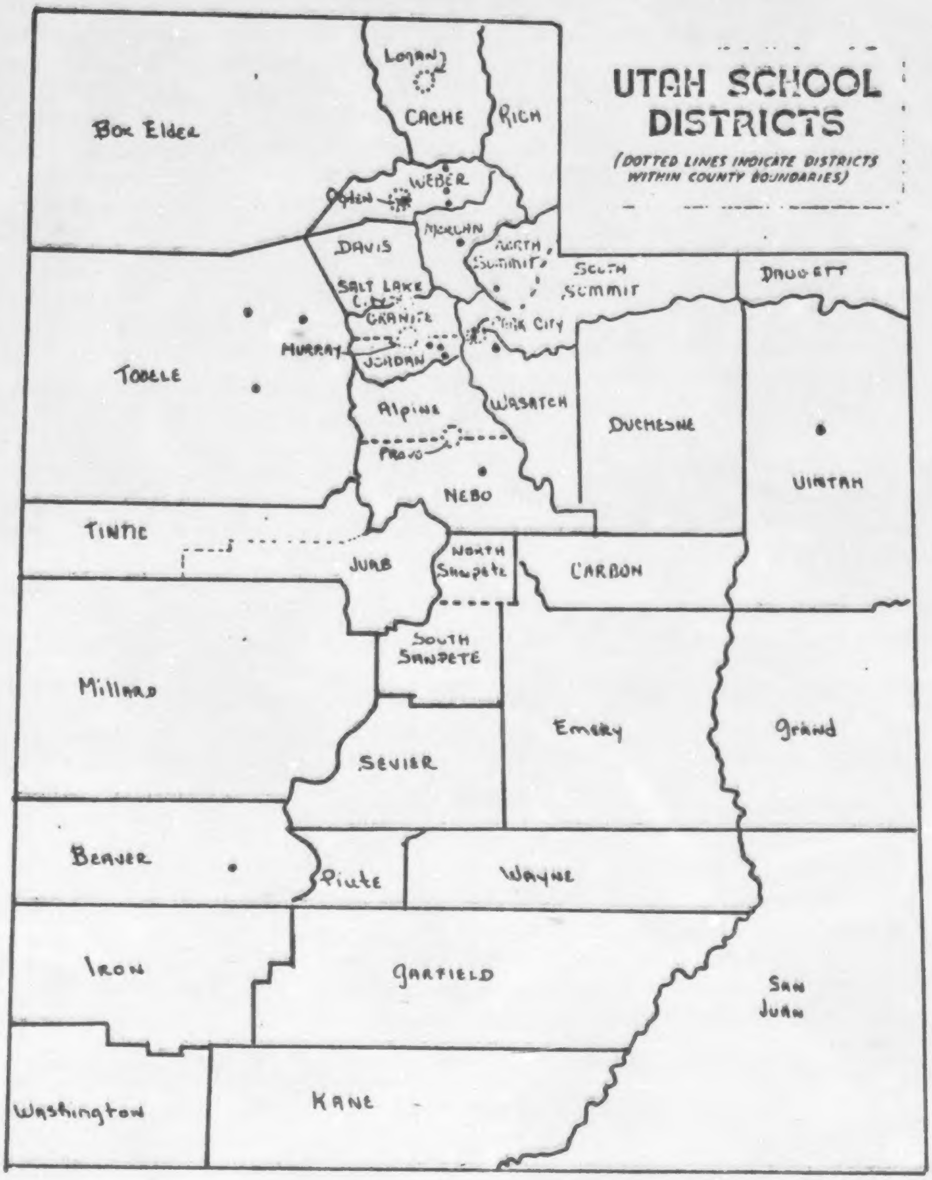
UTAH SCHOOL DISTRICTS
(DOTTED LINES INDICATE DISTRICTS WITHIN COUNTY BOUNDARIES)
Box Elder
Logan
CACHE
Rich
Ogden
WEBER
MORGAN
DAVIS
NORTH SUMMIT
SOUTH SUMMIT
DAGGETT
SALT LAKE C.
GRANITE
MURRAY
JORDAN
Park City
TOOELE
Alpine
WASATCH
DUCHESNE
UINTAH
PROVO
NEBO
TINTIC
JUAB
NORTH SANPETE
CARBON
SOUTH SANPETE
Millard
SEVIER
Emery
Grand
BEAVER
Piute
Wayne
IRON
GARFIELD
SAN JUAN
Washington
KANE

Fig. 4.1

Location of Stratistician/Generalists, 1973-74

Table 4.1
Summary of Stratistician Placement
1973-1974

Location	Distance from RMRRC	Type of Program	Professional Preparation of Stratistician/ Gen'list	Number of Children in Service Population	RMRRC Intermed. Strat. Assignment
Vernal	182	Resource Room	L.D. Certi. Remedial teacher	approx. 18	S1
Coalville	63	Resource Gen.	Soc.Ed.Bus. L.D. Cert.	58	S1
Heber	58	Self-Cont Resource	T.M.R. teacher	45	S1
Park City	35	Resource	Second.Eng. Elem. Ed.	30	S1
Morgan	75	Resource Gen.	Secondary L.D. Cert.	90	S1
Harris	38	Resource Self-Cont	M.Ed.Spec.Ed. L.D. Cert.	120	S2
Grantsville	47	Resource Self-Cont	Spec. Ed. L.D. Cert.	80	S2
Crescent	23	Resource	Comm.Disorders Speech Path.	65	S2
Edgemont	22	Resource	Comm.Disorders Speech Path.	60	S2
So.Jordan	21	Resource Itinerant Self-Cont	Comm.Disorders Speech Path.	80	S2
Dugway	79	Resource Self-Cont	Spec. Ed. Gen. Cert.	70	S2
Brookside	55	Resource	Sp. Ed.	34	S3
Milford	220	Resource	Sp. Ed. Music	30	S3
Hopkins	50	Resource	Sp. Ed. L.D.	45	S3
No. Ogden	50	Resource	Special Achievement	24	S3
Roosevelt	40	Resource	Special Achievement	40	S3
Valley View	45	Resource	MA Special Ed.	40	S3
Taylor					Contrast
Polk					Contrast

Another function of the intermediate stratistician was to participate in the development of training packages being developed by the RMRRC for general use in preservice and inservice training programs. The intermediate stratisticians were assigned modules of the training manual being developed. The manual is described in Chapter 6 of this report. This assignment further accentuated the training function of the intermediate stratisticians. Other formal workshops or seminars were developed by each intermediate stratistician for inservice training use.

A last function of the intermediate stratistician was to help build the links to districts necessary in establishing the project's evaluative program. The intermediate stratisticians worked with the school personnel to explain the need for the evaluation, to provide feedback on the data collected to the districts, and generally to facilitate the flow of information between the RMRRC and the district staff. The process of evaluation and its goals will be outlined at the end of this section.

The 17 stratistician/generalists, working in essentially 17 different situations, were to produce data that would verify the flexibility and adaptability of the stratistician concept to the needs of the "real world." In the transition students were still being served, teacher skills were being improved, and generally the schools and districts felt good about the service. The transition to the two-tier model was a change from the original "pure" concept of the stratistician model. In some rural and remote areas the stratistician/generalist was the only available special educator and it was necessary for that person to serve in a self-contained classroom part of the time to meet specific needs of some students. In such cases, the stratistician/generalist also tried to assist the rest of the teachers in the school whenever possible. In some cases the stratistician/generalist was the only special educator in the district and had to provide part-time service to both the elementary and secondary schools.

One major problem facing the analysis of the approach's effectiveness was the wide variance in the actual functioning of the stratistician/generalists in each of the 17 schools. In addition, new state funding guidelines went into effect after the school year began which required assignment of students to each special educator in a school for district reimbursement of state money. Assignment of students to the stratistician/generalist was opposed to the concept of serving as a resource person to teachers; such a role requires time flexibility and immediate availability to meet teacher needs. The RMRRC requested that the districts allow the stratistician/generalists to function as closely to the originally agreed upon guidelines as possible, but in view of the new constraints facing districts it was not demanded.

The RMRRC staff attributed additional problems to persons in at least three key positions. These three --directors of special education, principals and special educators--needed to be committed to the particular model in order to allow its implementation. There was some evidence that some of the persons in these key positions were not committed to trying the model. If a district administrator likes an idea and establishes a resource model in a school without consulting the principal and/or the special educator, some resentment and resistance to use of that model can be anticipated. If a principal decides against a particular model and prefers another, he structures the situation to meet his desires. Also, if the special educator decides that he would rather work in a self-contained or resource room but is forced to operate from another model, he gradually shapes that model.

Another problem was the "heavy data gathering effort." In order to participate, districts agreed to administer a battery of tests in the schools where a stratistician/generalist would be placed. The problem as viewed by the center training component was that the burden for administering the instruments fell upon the schools faculty members who were not involved in the decision to give the tests, and therefore, felt it was thrust upon them.

Part of the history of the stratistician model had been the efforts to evaluate the model. These efforts were discussed in the preceding sections. In the development of the Stage Three model a renewed effort was initiated to try to determine the validity and impact of the approach. The evaluation plan was comprised of two parts: 1) the evaluation of the training given to the stratistician/generalists during a two-week session prior to the opening of school; and 2) evaluation of the model's impact on aspects of the school.

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In order to accomplish the first evaluation aspect, a member of the evaluation component was assigned the responsibility of working with the service and training components in the development of the training modules and in preparing pretraining and post-training assessment instruments. Due to poor planning, this effort was not effectively implemented and few data are available on the training program's effectiveness.

The impact of the model on the educational program and, ultimately, on the handicapped children in the selected schools, was evaluated on the basis of data collected from teachers, children and administrators. The types of data included achievement, socio-emotional, attitude, and demographic data from teachers and administrators on the general educational environment. A similar effort had been ongoing in Texas and this methodology was reviewed and selected for use in Utah. Arrangements were made to modify and to use several relevant instruments (previously developed by a BEH intramural research project, Project PRIME) to collect all data except achievement data which were collected via standardized, published, commercially available achievement tests. The original purpose was the evaluation of the Stage Three model, but several intervening factors affected that intention. The original design will be presented and then modifications and actual outlines discussed.

Subjects for the Project PRIME instruments fell into three major groups: students (n = 6000), teachers (n = 300) and administrators (n = 40). The student group included all students in grades 1 through 6 in participating schools. For the administration of one instrument (Teacher Rating Scale--TRS) a subsample student group was formed.

The subsample student group (n = 2000) consisted of handicapped and nonhandicapped students. Handicapped students were defined as meeting one or more of the following criteria:

1. Included in a special education program (except for speech therapy students).
2. Reported in the state Project ID census in 1972 or 1973.
3. Referred to the generalist assigned to the school.

All handicapped students in participating schools were included. Nonhandicapped students comprised roughly 20 percent of the combined 19-school population and were chosen without systematic bias from each classroom in the participating schools, with the following exception: a teacher load of six students was established for the TRS. In those instances in which handicapped students in a classroom equaled or exceeded six, nonhandicapped students were not selected from that classroom. If the handicapped student number was less than six, enough nonhandicapped students were selected to reach the teacher load of six. The teacher subject group included all teachers in grades 1 through 6 in participating schools. No further differentiation of the teacher subject group was made.

The administrator subject group included three subgroups: principals, special education directors and superintendents. The principals' group (n = 21) consisted of principals of participating schools. Directors of special education formed a slightly different group because participating districts included duties of director of special education under such positions as pupil personnel director or psychologist. Also, three rural districts formed a multi-district cooperative in which one person fulfilled the duties of director of special education for the three districts. In any case, the questionnaire for director of special education was completed by the person charged with responsibilities suitable to the director of special education. N for this group equalled 8.

The materials from Project PRIME selected for use in Utah included:

Instrument	Subject	Response	Respondee
1. About You And Your Friends	All Ss	Yes/No	Student
2. Your School Days	All Ss	Yes/No	Student
3. Metropolitan Achievement Test (MAT)	All Ss		Student

4. Teacher Rating Scale	All Handicapped Ss Selected non-handicapped Ss	5 pt. rating scale	Teacher
5. Teacher Attitude and Classroom Climate	All Teachers	5 pt. rating scale	Teacher
6. Superintendent Questionnaire	Superintendent		Superintendent
7. Sp. Ed. Director Questionnaire	Spec. Ed. Director		Superintendent
8. Principal Questionnaire	Principal		Principal

These materials were adapted for use in Utah by either deleting inappropriate response items such as the reference to educational diagnostician or substituting equivalent response items such as TEA changed to UEA. The questions used in the design are presented in Tables 4.2 and 4.3.

Test instruments 1 through 5 were designated as pretest and posttest instruments with initial administration projected for September, 1973. Various unavoidable delays (e.g., approvals, printing, scheduling) resulted in pretest administration in some schools as late as December, 1973. These delays, although frustrating and potentially detrimental, frequently accompany field-based studies, and were unforeseen at the time of planning. The posttest date was projected for April, 1974, and was achieved. Instruments 6 through 8 were not included in the pretest-posttest design, and were administered on schedule in April, 1974.

Instruments 1, 2 and 3 were administered by each teacher to his/her classroom. This method constituted a possible source of error in that certain items on instruments 1 and 2 may be considered by teachers to be evaluative and/or threatening. The data gathered from these items will have to be interpreted with extreme caution.

Table 4.2 Formative Questions

A. How is the generalist perceived by regular teachers? (Teacher attitude and classroom climate questionnaire)

1. Role
2. Activities/extent of action.
3. Usefulness of activities.
4. Types of regular teachers' problems with generalist role.
5. Types of needs not being met by generalist.
6. Types of scheduling problems relating to generalist.
7. Types, extent and usefulness of media and materials made available by generalist.

B. How is the generalist perceived by administrators (principals primarily but will go to pupil services, and other district personnel)?

1. Principal
   - a. What activities of generalist are viewed as most favorable?
   - b. What sorts of problems does the principal get from other teachers in regard to generalist who does not work directly with children?
   - c. What does the principal do to facilitate and to build acceptance of generalist in his building?
   - d. How does the principal perceive the generalist role, responsibilities?
   - e. What are the types of needs he still has in serving handicapped children that generalist does not fulfill?
   - f. What is the principal's feeling about a person who does not work with handicapped children?
2. Questions for director of special education.
   - a. What is his attitude regarding teachers who do not work with children directly?
   - b. What does he do to facilitate acceptance?
   - c. What are needs that the generalist does not fill for handicapped children?

Table 4.3 Summative Questions

Instrument	Questions answered by group data.
M. A. T.	A. Does a generalist effect greater residualized gain scores across classes?
Your School Days	B. Does the classroom climate change as a function of generalist? 1. Teacher's influence?
About You and Your Friends.	C. Do children in generalist schools have better self-concepts, attitudes toward school?
	Questions regarding individual (target child) data.
M. A. T.	A. Dc handicapped children in classes with a generalist make greater gains then when there is no generalist?
Teacher's Rating Scale	B. In classrooms where generalists are available is classroom behavior of specific targeted kids better then with no generalist?
About You and Your Friends Your School Days	C. Do handicapped children in schools with generalists have better attitudes and self-concepts than without generalist?
	Questions regarding class as a whole.
Teacher Attitude and Classroom Climate Questionnaire	A. Do teacher styles differ between generalist/nongeneralist schools? B. Do types of activities differ in generalist/nongeneralist schools? C. Does teachers' willingness to work with handicapped children change?

As of May 1, 1974, pretest data received initial processing and were returned to the RMRRC as a computer printout on computer tape (Instruments 1, 2, 4, and 5). Results from Instruments 1, 2, 4 and 5 required factor analyses and scaling. It was decided that the tapes be sent to Dr. Donald Veldman at the University of Texas at Austin for analysis since he had already developed programming procedures when analyzing PRIME data. The posttest data were received in early May from participating schools. RMRRC clerical personnel prepared the data for initial processing by American Survey Research Corporation by mid-May. The achievement test results were returned from ASR in mid-June. However, the scoring of the PRIME instruments took much more time and were not returned until late September.

Data analysis of all Project PRIME instruments with the exception of the MAT utilize factor analysis. Methodology for the factor analysis on Project PRIME data are found in *Scale Structure of Teacher Rating Scale*, *Scale Structure of About You and Your Friends* and *Scale Structure of Your School Days*, all authored by Donald J. Veldman and in the internal working papers of Project PRIME (Texas).

Since the Utah data included grades 1-6 in the student sample and Project PRIME dealt only with grades 3-6, it remained to be determined if the factor structure of the student instruments obtained by the Veldman analysis held for the Utah data analysis. However, for orientation to the instruments, the factor structure for *Teacher Rating Scale*, *About You and Your Friends* and *Your School Days* will be reported. Factor structures are not available in the RMRRC office for the other instruments. For the following instruments the factor structures are:

Teacher Rating Scale: four factors reported

Factor I: Academic Concentration

Factor II: Misbehavior

Factor III: Outgoing, Expressive

Factor IV: Anxious, Depressed

About You and Your Friends: four factors reported

Factor I: Loneliness and Rejection

Factor II: Enjoys School

Factor III: Does Well in School

Factor IV: Misbehavior

Your School Days: four factors reported

Factor I: Enjoyment, Positive Reinforcement

Factor II: Unhappiness, Misbehavior

Factor III: Cognitive Emphasis

Factor IV: Variety, Individualization

The difficulties encountered by the evaluation were compounded by the new funding structure of special education in Utah. The change sharpened the definition of handicapping conditions and required assignment of children to personnel reimbursed as generalists. This influenced the operation of the stratistician/generalists and further reduced the clarity of the role definition since stratistician/generalists were to work primarily with teachers. Because the effectiveness of the intermediate stratisticians must be through this variable interface, clearly defined cause and effects could not be anticipated. The lateness of the pretesting also endangered the validity of the pretest-posttest design. The collected data, however, will provide the best RMRRC data base to date on the special education process in Utah. The results of this effort will be reported under separate cover due to the analysis of the data occurring at the closing of the project and the amount of time needed to process the volume of data.

Final Evaluation Design

Prior to the termination of the fourth year of the RMRRC project, the initial evaluation design was reviewed. The review indicated that the desired data to evaluate the Stage Three model would in most likelihood not be obtained from the original design because of the indicated unexpected confounding variables. Aware of the likelihood of this occurence, the project staff decided to use a planned year-end debriefing session for generalists and administrators as the basis for an evaluation of the Stage Three stratistician model. The design was constrained to the development of a measurement within the context of the year-end debriefing and within a three-week planning and execution timeframe.

The process by which the evaluation was designed is presented in Figure 4.2. The first portion of the process was to elicit from the principal staff involved in the stratistician program their intentions or goals for the operation of the model, and the expected outcomes from the planned activities. The procedure was to first meet individually with the principal staff who were most immediately involved in the development of the model and the training program associated with it; the aim of these meetings was to evolve the goals and objectives that were the basis for staff design of the program and staff expectation from the work for the year. The goals and expectations were in most cases drawn from memorandums, notes and informal planning documents, as well as from personal recollection.

The basic goal structure was to be used to determine the evaluation design by forming the measurement baseline. The goals/objectives were to be formed in hierarchal arrangement and then analyzed to determine the critical variables in the intended activities. In effect the goal/objective structure was being used to define the process by which the project operated for the year. The analysis of the goal structure was expected to provide the analysis of the desired operation of the intermediate stratistician/generalist program including all supporting activities.

The evaluation design was to define a process and desired outcomes that would result from the enactment of that process. In turn the evaluation instrumentation would be selected to determine if the process was enacted and its degree of effectiveness. Supplemental questions were to be used to determine if critical issues or peripheral activities occurred that related to the operation of the desired model. Some of these questions were to be open-ended to elicit the general feelings and views of the respondents in terms of the issues they saw as important.

The data collected on the goals and objectives and the desired outcomes separated into two distinct parts: the provision of educational services using

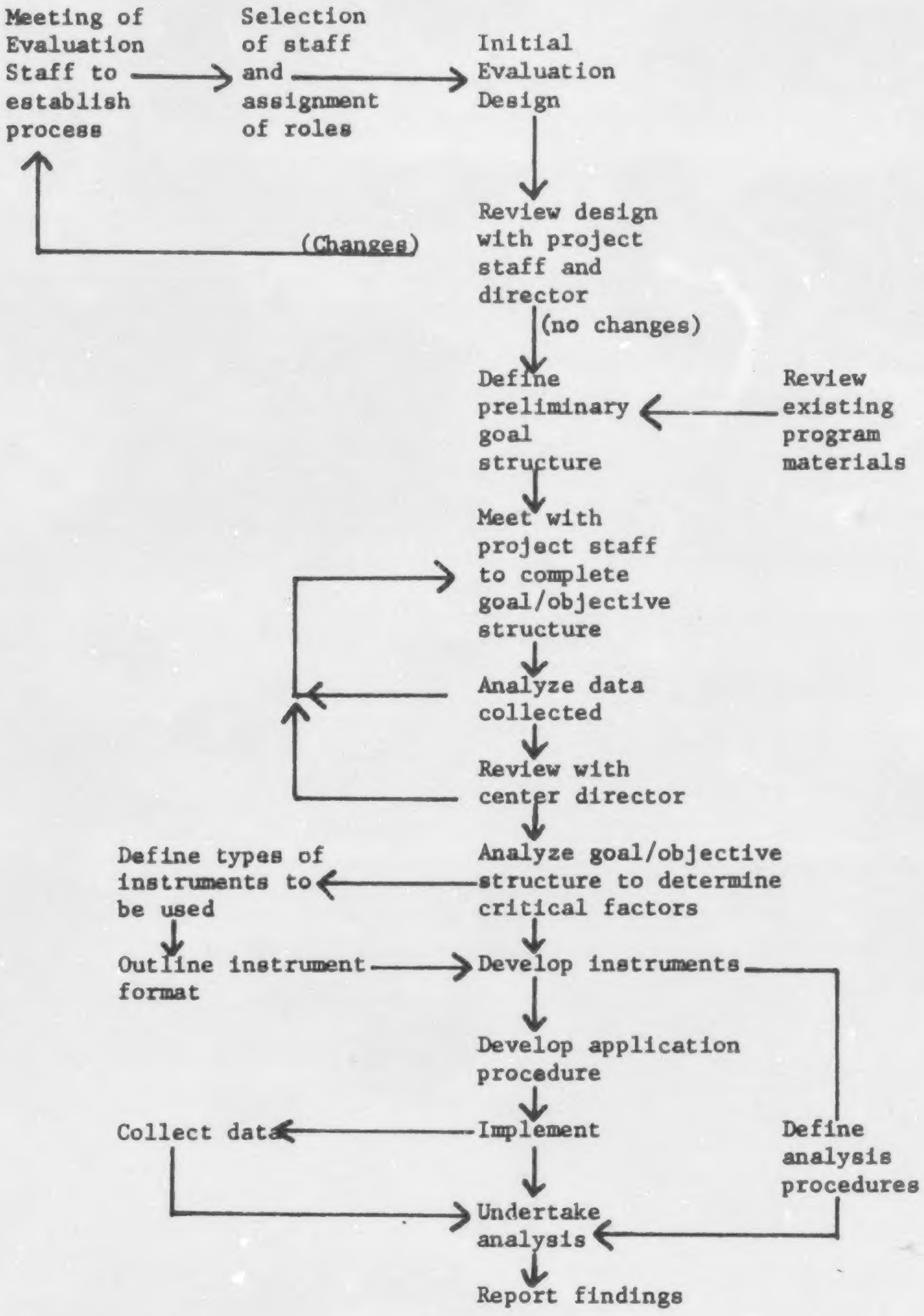
Meeting of Evaluation Staff to establish process
Selection of staff and assignment of roles
Initial Evaluation Design
Review design with project staff and director
(Changes)
(no changes)
Define preliminary goal structure
Review existing program materials
Meet with project staff to complete goal/objective structure
Analyze data collected
Review with center director
Analyze goal/objective structure to determine critical factors
Define types of instruments to be used
Outline instrument format
Develop instruments
Develop application procedure
Collect data
Implement
Define analysis procedures
Undertake analysis
Report findings

Fig. 4.2 Evaluation Development Process

the stratistician program, and the evolution of a training support process. The following outlines present an overview of the basic questions and assumptions in each area to provide a perspective of the goal-setting process to be discussed in the following pages.

Basic Questions

1. Are the relationships between the RMRRC, the intermediate stratisticians (IS)*, the stratistician/generalist (S/G) and schools necessary as operative in the Stage Three S/G model?
    - A. What are the relationships?
        1. What is the role of the S/G?
        2. What is the role of the IS?
            - a. What is the role of the RMRRC?
        3. What is the role of other personnel?
            - a. DA?
            - b. Other resource personnel?
    - B. What do the roles and relationships require to operate?
        1. What competencies?
        2. What support?
    - C. Could they operate without the RMRRC involvement?
        1. Contributions of the RMRRC:
            - a. Training

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*The initials IS, S/G and DA will be used through the balance of this chapter to signify intermediate stratistician(s), stratistician/generalist(s) and district administrator(s), respectively.

    b. Resource service and support
    c. Implementation (role support)
2. Alternative resources:
    a. What is available?
    b. What is already utilized?

Assumptions Made in Development of Training Program

I. Competencies as defined by research were in fact applicable to the S/G school-based operation. (S/G would use competencies learned during training in the school.)

II. Modules provided content to develop competencies identified. (S/G would show improvement of skills after training.)

III. Performance criteria were in fact restatements in behavioral terms of the defined competencies. (S/G would operate within the role in the school.)

IV. Posttest questions measured assimilation of competency content material sufficient to achieve performance criteria. (Those S/G with high posttest scores should successfully implement the role in the school.)

From this outlined structure, questionnaires were developed as well as a Q-Sort instrument which addressed the effectiveness of the program. Evaluation objectives at this year-end review were: 1) to determine how well the original program objectives had been met by the implementation of the S/G model; and 2) to collect data on the major needs, omissions and problems with the actual implementation of the model, as well as perceptions of alternatives. These data were intended for both accountability reporting and future planning purposes.

Table 4.4 presents the goal structure developed and used as a foundation and reference for the

Table 4.4

Goal Structure and Objectives Outline for Stage Three Stratistician/Generalist Model

Purpose: To Revise Stratistician Model to Respond to Past Problems and Findings

I. To determine competencies needed by Stratistician/Generalist (S/G) to better respond to requests.

- A. To feed information on competencies into planning of training program of RMRRC.
- B. To better define S/G role to other resource agencies:

  1. SEAs
  2. Universities
  3. LEAs, districts, etc.

- C. To disseminate information on competencies as a resource service to other training agencies:

  1. Pre-service
  2. Inservice

II. To determine if intermediate stratistician (IS), acting as an interface between S/G and RMRRC, would increase effectiveness of school-based S/G.

- A. To provide greater services and support to the S/G school-based program.

  1. To determine competencies.
  2. To determine resource and support needs and requirements for implementation of the school-based S/G operation of the model.
  3. To strengthen provision of resources and support needs by RMRRC.

     a. to obtain media, or provide knowledge of media contacts on request
     b. to facilitate data collection
     c. to provide a mobile and available resource person:

        (1) to organize and present workshops on request:

           (a) to S/G faculties
           (b) to other LEAs, districts
           (c) to out-of-state SEAs and Outreach
           (d) to University and other pre-service institutions

4. To establish a resource bank.
5. To establish a training program to insure a minimal level of S/G competencies.

    a. to develop a training resource to respond to training requests, inservice.
    b. to feedback into preservice training.
    c. to plan and conduct an effective two-week training workshop for S/G:

        (1) to provide an organizational structure for serving all handicapped children (identification, diagnosis, prescription, programming, evaluation).
        (2) to influence S/Gs to focus equally on all aspects of above service sequence (identification, diagnosis, prescription, programming, evaluation), not differentaially on one only.
        (3) to teach the content areas of competencies involved in the sequence and mandated by PL 91-230:

            (a) identification
            (b) diagnosis
            (c) prescription
            (d) programming
            (e) evaluation

        (4) to describe level of proficiency by measuring process skill level in the implementation of above content areas:

            (a) knowledge
            (b) comprehension
            (c) application
            (d) analysis
            (e) synthesis
            (f) evaluation

B. To adapt training to personalized, specific school and S/G needs.

1. To administrate training:

    a. to organize, retrieve information for the content of training
    b. to allocate format for training
    c. to develop training packages

2. To implement training in an individualized manner:

    a. to instruct S/Gs
    b. to support S/Gs
    c. to monitor S/Gs learning and provide personal feedback

3. To continually assess competency ability level of S/G, formally and informally.
4. To continually volunteer assistance based on assessment of S/G ability as deemed appropriate.
5. To act as a resource to teachers:

    a. to demonstrate a variety of teaching and problem-solving methods
    b. to maximize and support creative use of limited materials
    c. to introduce knowledge of new techniques, games
    d. to assist in test battery development for specific problems
    e. to assist in organizational problems: lesson planning, flowcharting, profiling on students, outlining objectives, etc.
    f. to demonstrate concept of various areas of exceptionality, provide information
    g. consultation with teacher regarding a specific child
    h. mutual problem-solving with teacher
       with administrator
       with group
       with child
    i. mutual decision making with teacher
       with group
       with child
       with administrator

6. To continually respond to requests from S/G for resources or assistance.
7. To provide workshops.
8. To continually provide emotional/psycho-social support in the S/G role.
9. To continually gather input on needs, requirements of the S/G in school-based role.
10. To get feedback on effectiveness of suggestions provided by IS.
11. To increase job efficiency of S/G by assistance on organizational aspects of the role:

    a. efficient use of time
    b. objective writing, decision making
    c. record keeping

C. To maintain focus initiated in the training program, in context of individual schools:

1. To provide continuing systematic, comprehensive outlook on provision and programming of special education services.
2. To maintain focus on logical adaptation of school variations in instruments and techniques to the comprehensive process (identification, diagnosis, prescription, programming, evaluation), i.e., to continuously refer to model presented in training, fitting it to school-based variations in instrumentation.

D. To adhere to contractual scheduling agreements with schools:

1. Two meetings per month with each S/G individually
2. One monthly group meeting of S/G and IS at the RMRRC Center

III. To establish a service process for the S/G.

A. To implement and operate the S/G model in the school:

1. To establish cooperative, contractual relationships with teachers rather than take over direct instructional responsibilities.
2. To take responsibility for overseeing evaluation procedures

   a. not necessarily to do testing or act as psychometrist, but to model and demonstrate and teach evaluation, diagnosis, prescription techniques

      (1) to do some observation of classroom behavior with systematic recording of data

   b. refer students for testing and evaluation

3. To take responsibility for coordination of programming:

   a. to maximize efficiency of available staff resources, outside resources, media

      (1) to refer to other resource personnel and agencies

   b. to serve greatest number of students

            (1) to deal indirectly with mainstreamed handicapped children in classroom

        c. to facilitate as many teachers as possible

    4. To become mediating force in schools, acting from nonadministrative, nonthreatening position.
    5. To utilize and demonstrate interpersonal interaction skills:

        a. environmental-reading skills
        b. mutual problem-solving techniques
        c. message sending and receiving skills

    6. To increase voluntary referrals and requests from teachers over the year.

B. To become an increasingly more independent resource coordinator, less dependent on the RMRRC.

IV. To reduce organizational demand of the RMRRC on the school-based S/G.

A. To free S/G to better respond to requests and needs of school.

    1. To eliminate time spent on center resource activities such as technical assistance out of state, presentation of workshops to LEAs, districts, etc.
    2. To eliminate data collection demands.

B. To increase district involvement and support.

    1. To cut federal costs by having district provide financial support.
    2. To have district administrators avoid unitary decisions regarding special education services, and rather act as part of staffing group with faculty and S/G to program services to the child.
    3. To have district administrators provide information on resources available in district to S/G.
    4. To have district administrators provide information on district constraints to S/G:

        a. staff time constraints
        b. budgetary constraints
        c. physical facility constraints
        d. constraints of attitude and climate of resistance/acceptance in district

5. To have district administrators provide public relations support and facilitation for the S/G's implementation of comprehensive special education programming:

    a. discussion of S/G role; presentation of accomplishments; discussion of function changes; suggestions for cooperation regarding the S/C operation

        (1) to school faculty
        (2) to higher level district and administrative personnel

6. To have district administrators use positions of unique contacts in obtaining necessary tools, assistance:

    a. to file for fees
    b. to request services

7. To have district administrators form a Participating Districts Advisory Committee (PDAC) to provide ongoing assessment of needs and feedback on operation of S/G model

V. To determine if school selected and placed S/G could implement the stratistician model.

A. To apply and adapt model across school systems
B. To apply and adapt model across school personnel

    1. To enlarge number of stratisticians available for evaluation of the model.

C. To determine if existing competencies, as represented by minimal baseline education requirement of a B.A. degree, were sufficient to implement the model.
D. To establish selection criteria for a resource pool
E. To provide more service to rural areas.

evaluation questions. Full questionnaires showing format and sequence of items appear in Appendix C. Finally, the results of the data analysis and description are reported, and conclusions drawn.

The remainder of this chapter contains data obtained from post-school-year sessions held with the IS, S/G and DA. The first set of data relates to the impact and effectiveness of the RMRRC training (Test --Retest Retention Study). The remainder of the data relates to the roles of the IS, the S/G, the DA, and comments regarding the S/G as obtained from the Program Analysis Questionnaire.

Test--Retest Retention Study

The original design of the retention study called for one pretest (termed a preliminary interview) prior to the August, 1973 training session, and two post-tests (termed post-training interviews). Posttest I was to be administered immediately following the August, 1973 training session, and posttest II at the end of the school year, 1973-74. These instruments are included as Appendices D and E.

The tests followed a format of one question for each of the 24 modules of the training program. Each question was to be written specifically to measure the implementation of the performance criteria for each module and was assumed, therefore, to have face validity. The same questions were to be used in each administration of the tests in an attempt to insure the reliability of the instruments.

IS were designated as the appropriate persons to formulate the questions since they were felt to be the only personnel with sufficient content knowledge of the modules. The exception to this plan related to modules 23 and 24--evaluation content area modules--which were assigned to a member of the evaluation team. Further assignment of responsibility for question-writing narrowed this task so that each IS wrote the questions associated with the modules that were his/her responsibility for development; e.g., IS I had responsibility to develop and write modules 1 to 4 and 6, therefore, IS I wrote the test questions for modules 1 to 4 and 6.

All three tests were scored by the following system:

1. All questions were arbitrarily assigned a maximum score of 6 points;

2. Each question was divided into several items: e.g., question 7 of the posttests consisted of a 16-part matching question and, therefore, contained 16 items;

3. Each item within a question was assumed to warrant an equal rating; therefore, the 6 possible points for each question were distributed equally among question items;

4. The same IS who wrote the question scored the question.

This plan was modified following the administration of the pretest when the training program evaluator discovered that the face validity assumption was inappropriate. Face validity could not be assumed bacause the individual IS had written the test questions prior to development of either the performance criteria for each module or of the module itself.

Post hoc examination of the performance criteria and of the questions indicated that, despite this error, questions 16 through 22 did appear to measure the performance criteria. Therefore, questions 16 through 22 were retained in the posttests and new questions designed to measure the performance criteria were written for all questions except for module 5. Materials for module 5 were not presented to the S/G either in the August, 1973 training session nor during the workshops of 1973-74.

Except for the above modification, the evaluation design was implemented. Caution is needed in interpreting the results of the pretest and posttest I on all but modules 16 through 22. These results, appearing in Table 4.5, suggest that the August, 1973 Training Program was successful for these modules with the exception of Modules 17 and 18.

The results from posttest II are considerably different, with all modules from 16 through 22 (with the exception of 19) yielding a mean score of 3.00 or less and with 17, 18, 21 and 22 producing a mean score of 2.00 or less. With the notable exception of module 19, it would appear that the training for modules 16 through 22 was not successful for long-term retention.

Table 4.5 Scores of the Evaluations of S/G Training Sessions

Module

		1	2	3	4	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
Pre-Test 1973	Range	2.58- 4.73	0.00 6.00	0.00 6.00	0.00 6.00	0.00 6.00	0.00 4.50	2.19 5.11	0.00 4.14	0.00 4.89	0.68 5.89	0.00 4.80	3.60 6.00	0.00 6.00	0.00 6.00	0.00 1.71	0.00 3.00	0.00 4.20	0.00 5.00	0.00 6.00	0.00 6.00	0.00 6.00	0.00 6.00	2.01 4.69
	Mean	3.91	2.44*	3.44	3.60	0.66**	1.97	3.09	2.11*	3.31	4.37	3.02	4.54	5.26	1.16**	0.72**	1.10**	1.76**	2.14	1.59**	4.00	3.25	3.73	3.16
	S.D.	0.54	2.00	1.79	1.59	1.85	1.22	0.81	1.29	1.46	1.49	1.45	0.87	1.94	2.33	0.61	0.82	1.14	1.16	2.33	2.91	2.03	2.01	0.83
Post Test I	Range	0.00- 6.00	0.00 6.00	1.34 6.00	0.00 6.00	0.00 6.00	3.80 6.00	1.80 5.40	2.40 6.00	2.40 6.00	2.25 5.25	1.61 5.68	0.00 5.60	0.00 6.00	0.00 5.60	0.00 6.00	0.00 3.00	1.20 5.40	2.10 6.00	0.00 6.00	0.00 6.00	0.00 6.00	0.00 3.00	0.00 6.00
	Mean	5.07	4.42	4.22	5.06	5.00	5.22	3.85	3.72	4.25	3.44	4.18	2.50*	2.92*	3.81	3.17	1.57**	2.90*	4.48	4.10	4.23	2.21*	1.57**	4.52
	S.D.	1.60	2.71	1.80	1.68	1.82	0.59	1.07	1.22	1.13	1.02	1.07	1.66	1.27	1.62	1.57	0.78	1.20	1.66	2.32	2.24	1.88	1.01	2.19
Post TestII	Range	0.00- 6.00	0.00 6.00	2.66 6.00	5.36 6.00	3.00 6.00	4.94 6.00	3.00 4.80	3.00 4.80	2.00 5.60	2.62 6.00	4.14 6.00	2.24 5.04	0.00 3.00	1.40 5.25	0.60 4.80	1.50 3.00	1.20 4.20	1.20 6.00	0.00 6.00	0.00 6.00	0.00 2.50	0.00 3.00	0.00 6.00
	Mean	3.70	5.60	4.77	5.95	5.80	5.88	3.96	3.88	4.05	4.45	4.56	3.90	2.70*	3.71	2.70*	1.80**	2.32*	5.28	2.40	1.86	1.23	1.66	4.40
	S.D.	2.33	1.54	0.97	0.16	0.77	0.31	0.59	0.50	1.34	0.98	0.45	0.80	0.84	1.05	1.12	0.62	0.78	1.33	2.17	1.92	0.82	1.11	2.29

* = Mean Equal to or less than 3.00
** = Mean Equal to or less than 2.00

Of those questions for which comparison must be limited to posttest I and posttest II, questions 13, 14, and 23 warrant attention. The mean score on posttest I, question 13, was less than 3.00. On posttest II, this mean score exceeded 3.00 (actual value was 3.90). It is assumed that either the monthly training sessions or field application of the skills in module 13 produced this result. Question 14 produced mean scores below 3.00 (2.92 and 2.70) on both posttests I and II, and question 23 yielded mean scores below 2.00 (1.57 and 1.66) on both posttests I and II. The information in these modules was apparently not retained on either a short-term or long-term retention basis. Qustions 1 through 12, 19, and 24 all yielded mean scores greater than 3.00 on posttests I and II. It may then be assumed that the content in modules 1 through 12, 19 and 24 was retained.

The retention study data yield some interesting results. Retention from posttest I to posttest II was, in general, very good. Posttest II questions 2 through 17, 19 and 23, in fact, yielded a mean score the same as or higher than on posttest I. This represents a total of 18 of the 24 modules for which measured retention levels indicated that the skill was either maintained or improved through the school year. On the other hand, results from questions 1, 18, 20, 21, 22 and 24 indicate that retention declined through the school year. Mean scores for these questions were lower for posttest II than for posttest I. In the case of questions 20 and 21, the mean scores were separated by 1.70 and 2.37 points respectively.

Results from questions 16 through 22 (questions 16 through 18 cover prescription and questions 19 through 22, programming) as noted earlier, may be compared across all three tests. This is noteworthy since the scores for 16, 17, 18, and 20 were exceptionally low on the pretest (mean scores below 2.00).

The pretest mean score on question 19 was also low (below 3.00). On posttest I questions 17 (mean = 1.57) and 18 (mean = 2.90) retained a low score. Mean scores on questions 16, 19, and 20 on the posttest exceeded 3.00 (mean for 16 = 3.17; mean for 19 = 4.48; mean for 20 = 4.10).

Report on Program Analysis Questionnaire

From June 5-7, 1974, a three-day, year-end debriefing meeting of IS, S/G, DA and RMRRC staff members was held. During that time the questionnaire developed from the goal structure was administered. Due to time constraints of the meetings, it had been decided that questions would be restricted to various types of self-report measures: checklists of types of activities and resources used during the year, frequency and percentage estimates of types of activities and resources used, open-ended questions describing process, and self-ratings on role effectiveness and program operation.

Self-reporting was used in the following ways: 1) polling the S/Gs as consumers of the RMRRC resource services (including training) regarding their satisfaction; and 2) polling the DA as consumers of both direct service by the S/G and indirect resource service by the IS. Representing the consumer opinion, this data gave an estimate of perceived effectiveness, and projected needs of the program. The same personnel, as well as the IS in their alternate roles as providers of services and resources, were then polled for their individual descriptions of the processes and problems involved in the delivery of services and resources to the schools. It was felt that the combined perceptions of these personnel, noting similarities and differences, would reveal a reasonably valid description of the process and effectiveness of the program operation, although all respondents would not have access to information on all program facets.

In the following sections, the objectives drawn from the desired operation goal structure will be related to the questions developed, and the data results presented. A copy of the complete questionnaire is included as Appendix C.

There were four groups responding to the Program Analysis Questionnaire: 1) stratistician/generalists' (S/G); 2) control group generalists (C/G); 3) intermediate stratisticians (I/S); and 4) district administrators (DA). The groups are defined as follows:

1. S/G: A school based generalist who received the RMRRC training in August, 1973, and the follow-up training of workshops during the school year 1973-74. An S/G is assumed to

have worked at least part of each day in the stratistician model and received support from an I/S.

2. C/G: A field-based contrast generalist who did not receive the August, 1973, training and may or may not have attended the training workshops during the 1973-74 year. An C/G received support from an IS during the year and may or may not have functioned in the stratistician model. Because of the small number (n = 7) of the C/G and because of the lack of consistency among the group on training and/or function, no attempt will be made to interpret the results from their questionnaires.

3. IS: An RMRRC full-time employee who had functioned as a field-based stratistician during the preceding year (1972-73). An IS provided resources and support for S/G and C/G during 1973-74 and also provided the link between the RMRRC and the S/G and C/G.

4. DA: This group consisted of principals of participating schools, and superintendents and directors of special education (or individuals whose role definitions included the duties of director of special education) from participating districts.

In the administration of the questionnaire S/G and C/G responded to all questions through question 44. I/S and DA responded only to questions that appeared applicable from questions 1 through 44. Questions 45 through 50 were for DA only.

The data from questions 1 to 11 relate to Goal II, A5, as is stated in the outline of the goal structure. The main statement is: "to establish a training program to insure a minimal level of S/G competencies."

The results from questions 1 and 2 of the Program Analysis Questionnaire indicate a striking difference in skill-level perception between the S/G reporting on themselves and the IS reporting on their perception of S/G skill level. The S/G tended to rate themselves at a higher skill level than where the IS placed them. For example, the IS did not place any S/G at the evaluation skill level, while from 5 to 13 S/G placed their own skill levels at evaluation depending on the content area.

Another result worthy of mention is that the S/G and the DA value high skill levels (i.e., toward synthesis and evaluation) in all content areas. IS, however, tend to feel that competency at the analysis level in all content areas is sufficient for functioning as an S/G.

Regarding provision of services, it was hoped that S/G would eventually achieve the objective stated in III.B, "to become an increasingly more independent resource coordinator, less dependent on the RMRRC." in working toward this goal, the RMRRC-based IS was to teach the process of resource coordination by modeling, as well as by providing the resource. The IS, in fulfilling his role, was hopefully meeting the goal of II.A.3 and 4, "to strengthen provision of resources and support needs by the RMRRC; to establish a resource bank," as well as that of II.B 3 to 10, "to adapt training . . . by assessing competencies, volunteering assistance, responding to requests, providing workshops and support, gathering input, getting feedback, increasing job efficiency," and II.C, "maintaining the focus initiated in training." Questions 19 to 29 plus 35 were taken directly from the foregoing list of objectives for the IS role in providing services. Obviously the categories of implementation and resource provision overlap at the point of the IS role, and the results apply to both design components.

S/G indicate a consensus of opinion that the IS were supportive of the S/G school-based functioning. The examples suggest that the IS remained flexible in this support and served primarily as a resource to the S/G. It is interesting to note the frequency of mention of acquisition of materials for the S/G--a function that might normally be ascribed to the SEIMCs. In addition, responses to question 24 indicate the IS was regularly available and more likely, frequently available to the S/G when needed.

Question number 3 on the Program Analysis Questionnaire relates to the S/G's utilization of interpersonal skills (operationally defined as reflective listening, congruent sending, problem solving and acceptance in school) with four consumer groups (teachers, administrators, students and parents).

Tabulation of the responses to question number 3 yields consistent results across the four content areas. For example, in reflective listening, with teachers as the target group, the S/G rated themselves either proficient or very proficient whereas the IS rated the S/G as either slightly proficient or moderately proficient. These same lowered perceptions of the S/G's skills by the IS were consistent across the other content areas.

Using the DA as the target group, the S/G rated themselves lower than with the teacher groups. This result suggests that the DA authority position possibly inhibits the S/G's uses of interpersonal skills. As with the consumer group of teachers, the IS rated the S/G lower than the self-perceptions of S/G in the interpersonal skills areas related to DA.

The data relating to students and parents as target groups yield essentially the same patterns as those for teachers and DA. All respondents agree that the skills are important to have, i.e., rated them very useful to essential on question number 4.

Questions 5 and 6 relate to the usefulness of the service sequence ranging from identification, diagnosis, prescription and programming to evaluation. The S/G and IS all viewed the sequence as very useful or moderately useful. The S/G not only perceived the sequence as useful, but in fact, utilized the sequence with many of the children referred to them for treatment.

In rating the degree of usage (i.e., question 9) the S/G rated identification first (used most frequently), diagnosis used next most frequently and then programming. Although the three components were ranked, they were in effect fairly evenly distributed. The IS perceived the S/G as using programming the most by a wide margin. The implication is that the S/G saw themselves working over a broader area than the IS saw them working. In addition a second implication was that the S/G, as seen by the IS, tended to move into programming with minimal diagnostic or prescriptive groundwork being done.

Questions 12 to 14 of the Program Analysis Questionnaire relate to Goal II.B.2, regarding individualized training. The results of questions 12, 13 and 14 indicated the S/G were very much satisfied with the training as it related to their own needs and for making efficient use of their time.

Determining service needs and providing mechanisms for meeting those identified needs are valuable components of a resource service agency. Attemps were made through the Program Analysis Questionnaire to assess the RMRRC's success in providing these resources. In responding to question 17, the S/G indicated the IS listened to, asked for and responded to needs that the S/G had. The discrepancy indicated the the S/G felt the IS were more useful than the IS perceived their own role.

Table 4.6 indicates a summary of responses to question 28. The table depicts the proportion of time the IS used to respond to various activities. As can be seen, the activities most frequently engaged in were consultation regarding the teacher, consultation regarding the child and modeling new techniques to the S/G. The interesting result gleaned from the data summary, perhaps, is the relatively low usage of the IS in most of the activities listed, with one implication being that the S/G were moving to a more independent role as was stated in Objective III.B.

In ranking the RMRRC contribution to the S/G for the year in response to question number 35, the S/G's and the IS's perceptions were essentially congruent. The training program, IS assistance and regular inservice meetings with other generalists received the top rankings. Inservice workshops received the lowest rankings as helpful contributions.

Question 30 was designed to get an idea of the changing demand on the IS by the S/G as the year progressed. The RMRRC had postulated that as the S/G became more independent, the IS would be less and less called upon. The results indicated that the peak of request for support from the IS came around mid-year as opposed to the beginning, as was hypothesized. One explanation may be that it just took time for the S/G to formulate the requests for service from the IS. It is interesting to note that the IS formed a resource that was used slightly more than all the other specified resources combined.

It was hoped that the RMRRC support could be withdrawn at the end of the year and the model would be operational without RMRRC support. Responses to

Table 4.6 Percentage Use by S/G of Services Available from I/S as Seen by the S/G

	28. Activities	Range	Mode	F*
a.	Consultation regarding teacher with S/G	00 - 40%	**05-10%	4
b.	Consultation regarding child with S/G	00 - 65%	**10-25%	3
	with teacher	00 - 20%	00%	5
c.	Modeling new techniques to S/G	00 - 30%	10%	6
	to teacher	00 - 05%	00%	10
d.	Mutual problem solving with S/G	00 - 20%	05%	5
	with teacher	00 - 05%	00%	8
	with principal	00 - 10%	00%	6
	with a group	00 - 25%	00%	13
e.	Mutual decision-making with S/G	00 - 20%	**00-05%	5
	with teacher	00 - 10%	00%	10
	with administrator	00 - 05%	00%	10
	with group	00 - 10%	00%	12
f.	Demonstrating creative use of limited materials with S/G	00-15%	00%	6
	with teacher	00 - 05%	00%	13
g.	Test battery development for specific problems	00 - 10%	00%	10
h.	Special project development	00 - 40%	00%	6
i.	Other activities	00 - 32%	00%	11

*F = Frequency of Modal Response

** = Bimodal Distribution

N = 16

question 34 indicated that if the other resources (i.e., existing community support) continued, the S/G could and would continue without the RMRRC. However, if community resources could not be utilized for whatever reason, the S/G felt they could not and would not operate as they had done in the 1973-74 school year.

Since the role of the IS was reported in the first section of the Program Analysis Questionnaire, the remaining components of the school-based model implementation are for the school-based personnel--the S/G and the DA. Questions 38 to 43 of the Program Analysis Questionnaire regarding the S/G role were developed directly from the objectives listed under Goals III.A and IV.A.

The single theme that appears to run through the S/G in responses to their roles is a need for increased communication. Other than this theme, responses of all groups do not yield an apparent pattern. This may be an artifact of individual situations and/or individual reaction to context specific conditions. Of further interest in these responses is the apparent lack of overlap among respondent groups that is suggestive of viewing the problem from differing perspectives or of lack of communication among professional groups.

The scope of S/G service in the school was varied. The number of children served directly by the S/G ranged from 20 to 123 whereas the number of children served indirectly was reported to range from 5 to 200. Service to teachers also varied widely. Some S/G reported serving no teachers, either directly or indirectly, while some S/G served as many as 22 teachers.

In performing their varied functions, the S/G necessarily had considerable contact with the IS and other RMRRC staff and/or programs. S/G were questioned if such contacts were hinderances, and if so in what way. Responses to question 42 indicated that by and large the contact with RMRRC staff and/or programs was not a hinderance, although there was some concern over the amount of data collection required.

Data related to the type of handicapped children served and the degree of "mainstreaming" made possible indicated that, as expected, most of the children seen by the S/G could be classified in three categories of exceptionality: mental retardation, emotional distrubance and learning disability. As was expected there was a very small percentage of severely handicapped children served by this model.

The degree of success for mainstreaming is difficult to assess. Responses indicated that from 1 to 25 children from self-contained classes were returned to the regular classes. The problem, however, is that there are no data to tell what percentage this is of the total number of children worked with from self-contained classes.

In comparing the S/G role to other ancillary personnel in the district, the S/G and DA were about evenly split on whether the services were a replacement of an existing role specification or whether they were an addition. The truth probably varied with the particular role definition in specific school situations.

Discussion

The data obtained from the Program Analysis Questionnaire were presented here in ways that described the roles of the various participating components of a school-based intervention model. The data from various sections speak for themselves. However, as a type of summary statement the participants--IS, S/G, and DA --were asked to rate the achievement of performance objectives stated by the RMRRC. These objectives appear in Table 4.7.

Each participant was asked to sort those objectives achieved and those not achieved. In addition the participants were asked to rank each group in order of degree of success.

Criteria for achievement of the objectives were established at 50 percent or more of the respondent group rating the objective as "achieved." This figure for the S/G group was 8 or more responses; for the IS, 2 or more; for the DA, 11 or more. S/G rated all objectives except 3, 5, 8, and 10 as "achieved." IS rated 3, 6, 7, 9, and 12 as "not achieved." All others were achieved. By the above criteria, DA rated all objectives except 3 as "achieved." However, objectives 3, 6, 10 and 12 received the lowest frequencies of ratings of achievement. Concurrence of all groups on

Table 4.7 Performance Objectives

1. To feed information on competencies into planning of training program of RMRRC.
2. To determine if an intermediate level stratistician, acting as an interface between school-based generalist and the RMRRC, will increase effectiveness of the generalist.
3. To disseminate information on competencies as a resource service to other training agencies, both preservice and inservice.
4. To provide greater services and support to the school-based generalist program, through training, assessment of resource needs, and provision of resource services and support.
5. To maintain the focus intitiated in the RMRRC training program within the context of individual schools, fitting school-based variations in techniques into the general model for service delivery.
6. To reduce organizational demand of the RMRRC center activities on the school-based generalist, in order to free the generalist to better respond to requests and needs of the school.
7. To determine if district-selected and placed generalists, from varied backgrounds and styles, could implement the stratistician model across school systems and personnel.
8. To determine competencies needed by stratistician/generalist to better respond to request.
9. To adapt training to the personalized and specific needs of the school and generalist.
10. To better define stratistician/generalist role to other resource agencies such as SEAs, LEAs, universities.
11. To provide more service to rural areas.
12. To establish selection criteria for a resource pool.
13. To increase district and administrative involvement and support, by utilizing them as information sources on services and constraints, and as facilitators of the generalist operation.

14. To establish a service process for the generalist to implement and operate in the school, including methods of providing resources to teachers, evaluation and programming coordination, and mediation of conflicts.

objective 3 as "not achieved" and of two groups of objectives 6, 10, and 12 suggests that these objectives were, in fact, not met. Reasoning inversely, then, all objectives except 3, 6, 10 and 12 were met.

Stratistician Summary

The current chapter on the stratistician model has ended without closure. Hard evaluation data are not yet available on child change due to stratistician intervention or on model adoption by district personnel. The significant efforts of center staff to obtain conclusive data were frustrated by unending blocks and design changes necessitated by district, school and child-centered needs. The subjective reality of needs being met by the model appear valid and are reinforcing. Adoption of the model is under way in several districts throughout the state, but total impact is not possible to assess at this time. A longitudinal view will need to be made at some future time.

The data on child change, obtained by the PRIME instrumentation, although fruitful for the schools and state, will not confirm the usefulness of the stratistician role as planned. This disappointment is keenly felt by RMRRC staff members. The variability in the functioning of the generalists in the schools due to the change in state financing was unavoidable. Thus the question still remains unanswered if success or failure of the model is a variable of the particular stratistician/generalist or of the model itself.

Post hoc performance objectives indicate a significant ratio of achievement, 10 to 4, but even this must be viewed with caution. The performance objectives were generated from center-wide objectives for the model, and may or may not have been relevant to the specific group or groups asked to respond.

The RMRRC staff feels strongly, however, that the stratistician model is relevant and that it provides a needed alternative as a backup for teachers in mainstreaming efforts. The staff also feels strongly the potential for rural teacher support, by an itinerant stratistician.

The training package, based on identified competencies for this role is a significant contribution.

It is hoped further field testing and refinement will be undertaken by other projects involved in examining alternative service patterns.

Time and reality seem the opponents of field-based research--but time is reality and the education field the only valid laboratory for obtaining field-based data. The RMRRC staff is proud of the accomplishments in this arena and of the stratistician model with its reported weaknesses and strengths.

Chapter 5

SUMMARY OF STRATISTICIAN DEVELOPMENT

A summarizing of the effectiveness of the stratistician model during its four year history is, at this time, mainly a subjective interpretation. The analysis, however, is important to the future development of large-scale special education programs, as program development issues outweigh the desired outcomes of a service delivery model. The stratistician model was conceptualized to extend noncategorical service to all handicapped children possible. The stratistician service delivery model, as an outgrowth of the movement toward noncategorical education for the handicapped, includes the strengths and weaknesses of the movement. The summary and analysis of the results of the model development must be undertaken in this context.

The stratisticians were to serve the unserved handicapped children in public schools. The data collected in the first operational year of the stratistician concept (1971-1972) indicated this population consisted of the less involved children within the regular classroom. The category of descriptors used in the interventions on problem classroom behaviors may have influenced this selection process. A clear separation in the service delivery was drawn between the more severely involved child who was treated in the special class, since those handicapped children were receiving needed services. The distinction between a child's learning problem and handicap was never clearly drawn, and since most children experience some learning problems, the target population became all children with learning problems rather than focusing on handicapped children, per se. This was a strength of the model if viewed as movement toward noncategorical education.

The original intent of the stratistician model was to provide a mechanism for locating the unidentified handicapped who were not receiving appropriately designed services, and secondly, to establish what types of resources were needed to help the handicapped child within the regular classroom. Concurrently, by working in rural Utah, the RMRRC sought answers on the same questions for the more severely involved children where little or no special support services were available.

The service intentions were defined initially, but they became lost in the implementation as the stratistician became an effective service provider instead of a data collector. This change can be seen in the shifting focus of the role of the stratistician in each of the three operational years. Within months of initiation, the data collection mechanism weakened (since the needs assessment indicated the service model need was paramount), and the stratistician value to a more global resource system declined, except in the development and field testing of a service delivery model.

This change in role was apparent long before it was articulated, in a continual confrontation between the center's service component and the research and evaluation component assigned to operate the needs assessment mechanism. Either the selection process and training of the stratisticians did not clearly define their crucial role in developing data for more global application, or the daily needs in a school outweighed the more distant needs originally expressed. The emphasis on noncategorical education and direct service became the key focus, and the assessment feature drifted into a secondary role of decreasing importance. By the second year the service role dominated and further analysis or needs assessments were not undertaken, but a validation of the stratistician model was initiated.

The shift in focus was not alien to the role the center served at that time, for it was assigned to facilitate development of services for handicapped children in Utah, and not to the later-assigned region. This initial limitation by BEH to a one-state service mode made the later shift to a regional focus more difficult, since much effort and time had been invested in the development of the stratistician model. The proposal for the third-year operation had been submitted and accepted and commitments had been made in Utah for continuation of the stratistician model before the center was requested to expand services to the region. A key decision had to be made at that time regarding the completion of the field tests and the initiation of regional services.

The decision was made to complete the projected field testing of the stratistician model by completing it as quickly as possible, while expanding regional efforts as rapidly as possible.

The different priorities of the stratisticians or service component and of the research/evaluation component were also influenced by a basic disagreement over formal testing. Formal testing has historically been difficult to apply to educational programming and test results often have been unused or misused. The service staff members preferred to use informal techniques, and to avoid labeling of children where ever possible with formal test measures. This position resulted in limited uniform data resulting in a relatively uninterpretable data base; hence the evaluative function was reduced to an obscure and ineffective level.

The difficulties in development of reporting techniques were compounded by the efforts of school-based personnel to reduce record keeping. Yet there was no evidence of the use of alternative approaches such as the individualized instruction techniques with criterion references for evaluative data base. Alternatively, formalized diagnostic efforts could have been used and more effort could have been placed into interpreting results and establishing educational prescriptions. Neither approach was utilized. Instead, a free-form effort, whose value cannot be established, evolved.

The original work in Stage One was to collect data to define inservice training needs. Measurement of this process was lost in the second year, and a replacement was not instituted.

The occurrence was not unusual for special education. The issue of measured control versus immediate need gratification has been a central and controversial issue in many projects. Intentions in projects often become subverted to the generation of positive feedback by adopting postures acceptable to the educational community. A continuing cycle is started and the initiating purpose is lost. In a center with the complexity of the RMRRC, this process can easily occur if staff focuses on specific approaches rather than on the global questions and goals of the center.

From a program analysis view, the problems were inherent in poor planning techniques that did not develop expected outcomes desired for specific needs. The established goals and objectives were general and did not specify small component, measurable activities. In this situation, guidelines for program operation become obscure and direction of the organization is established by immediate needs instead of by the organization goals.

Inherent in this problem was the development of conflicts between individuals. The likelihood was that mutually supportive activities decreased because they are not generated by common planning, although the coordinators for training and evaluation, as members of the RMRRC executive board, participated in all center planning. These flaws were typical of large educational ventures. By trial and error over a span of years the programs develop a workable source of operations. The data would suggest that this general situation (as defined in those last two paragraphs) existed within the center and particularly in the stratistician program.

The few indicators from the data Stage One model indicated that it was very likely that the stratistician model was an effective mechanism for providing services to children in regular classes, and that it could effectively provide a needs assessment mechanism. The model also showed that it could potentially serve as a resource link and that it could support children in regular special class placements. That this indication was never proven conclusively, was unfortunate.

The fourth year model (Stage Three) was an interesting paradox relative to previous program directions. The intermediate stratistician became a resource linker and inservice training person, and began to serve more of a regional function as an itinerant resource person. The person, by servicing six districts, began to provide a more cost-effective service and in the training role, workshops evolved on common problems which began to meet some of the initial goals of the stratistician concept first stated four years earlier. In the fourth year, training models also were developed based on the experience of the preceding four years; the original model had earlier sought to formally evolve that process so a resource system and better measurement of handicapping conditions would develop.

One result of the direction variation and the nonprogrammed activity was a rather small number of measureable outcomes and products. The data outcomes were generated in the project's second year and the training models in the fourth year. These products were the basic measureable outcomes that could be stated in May, 1974. The remaining effort was lost in the experiences of the people who served and in some unmeasured gains for a number of children in Utah subregions.

These problems could have been avoided by structuring the program as discussed in Chapter 4 of Volume I. The relationship of organizational elements to specific purposes was crucial, but, more importantly, it established the flow of goods and services from the center to specific target groups. Purpose and expenditure would have been better matched, and a better probability would have existed that outcomes would have been achieved.

Consistency in the overall center role would be a basic ingredient to such program structuring. The initial RMRRC proposal envisioned a regional role, but BEH requested that the center serve Utah only. The third year of funding had begun when BEH requested that the RMRRC expand services to the region. This inconsistency of role is reflected in changes in the goals of the RMRRC and the functions relative to achieving these goals. Clarity and consistency appear to be basic ingredients needed for successful intervention by a regional service agency, plus a guaranteed longevity of service to enable development of alternative models, regional support, and acceptance.

Chapter 6

TRAINING PROGRAM

The RMRRC has included training as an active ingredient of its program of services. The program has included a range of preservice and inservice activities which are summarized in Table 6.1. These activities have often been in response to specific requests by the general educational community of the region. Other training activities were directed to skills improvement of RMRRC stratisticians and the stratistician/generalist. To simplify the presentation an overview of the workshop activity since early in 1972 will be presented, as well as the integrated training program for the Stage Three stratistician model (1973-1974). The workshops represent a combination of inservice and preservice activities. Included within the workshops are responses to needs of Outreach programs.

The training program for the stratisticians in 1973-1974 is used to provide an example of how the RMRRC developed integrated training programs, and designed evaluations to measure their worth. The process was still under development when the current RMRRC program ended, and reflected the evaluative redesign process that was an inherent ingredient in all RMRRC activities.

Workshop Program

The workshop program was an in-demand service that followed a standard sequence after initiation of a request from the user. The requests were reviewed by the RMRRC executive committee to determine their appropriateness. If they were approved, the activity was assigned to an appropriate RMRRC staff member to prepare and implement the workshop. An evaluation instrument was developed by the responsible RMRRC member and used as a part of the workshop. The work flow sequence is shown in Figure 6.1.

The workshops presented spanned a range of

Table 6.1

General Types of Training Provided by RMRRC

- I. Inservice
    - A. Appraisal (diagnosis, prescription, programming, evaluation, etc.)
    - B. Needs Assessment
    - C. Student Consultation and/or Demonstration
    - D. Communication Skills
    - E. The Role of the Generalist
    - F. Outreach Activities

- II. Pre-service
    - A. The Stratistician Model
    - B. Communication Skills
    - C. Curriculum (appraisal)
    - D. Competencies

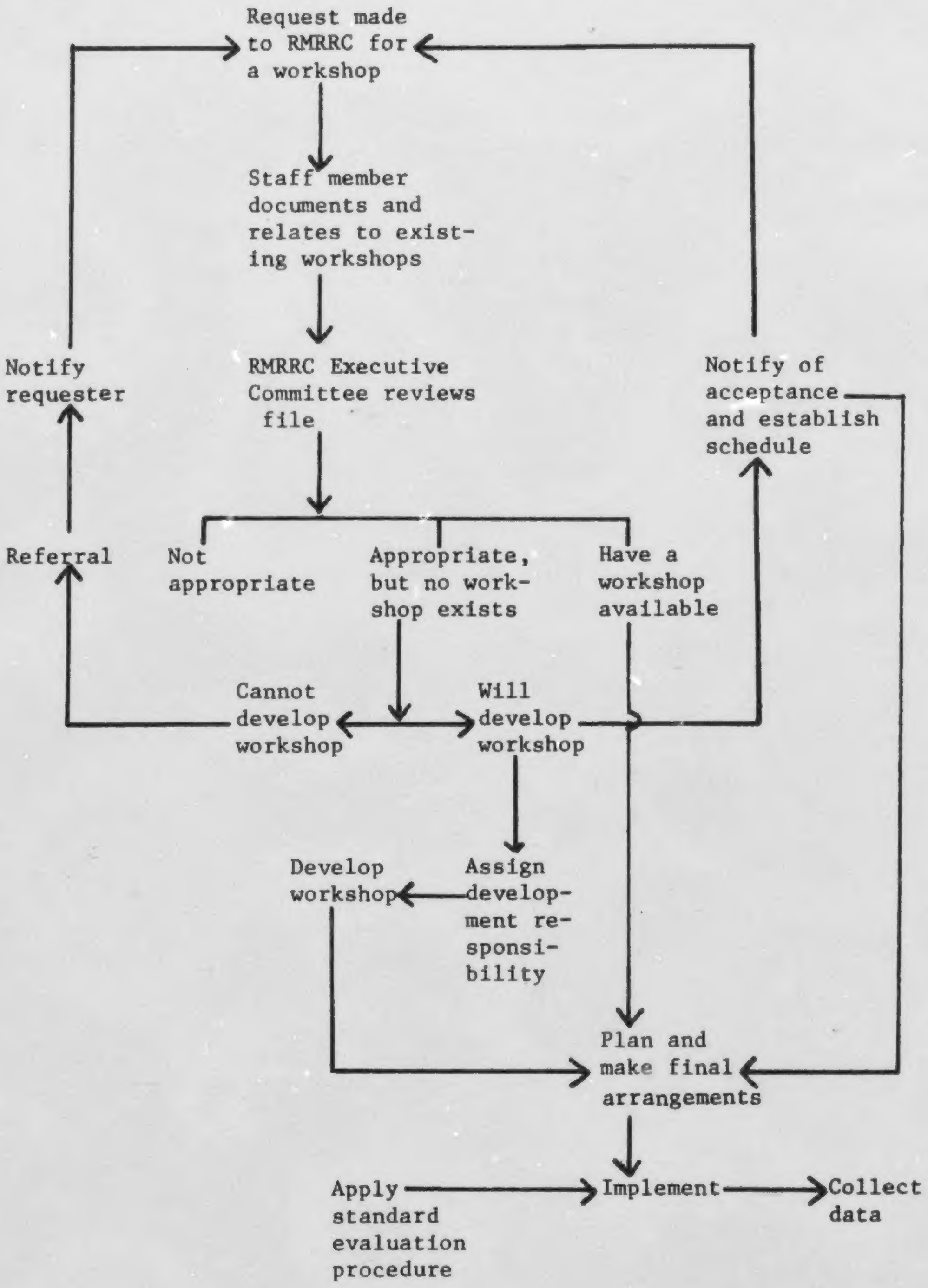
Request made to RMRRC for a workshop
Staff member documents and relates to existing workshops
RMRRC Executive Committee reviews file
Notify requester
Notify of acceptance and establish schedule
Referral
Not appropriate
Appropriate, but no workshop exists
Have a workshop available
Cannot develop workshop
Will develop workshop
Develop workshop
Assign development responsibility
Plan and make final arrangements
Apply standard evaluation procedure
Implement
Collect data

Figure 6.1 Workshop Work Flow Procedure

situations. A listing of the workshops presented by the RMRRC staff since August 1972, is compiled in Appendix B, Vol. I; Table 6.2 summarizes the information from the appendix. A listing of the workshops available on request from LEAs, SEAs, Training Programs, and other service agencies is contained in Table 6.3.

Ideally an evaluation staff member participated in the workshop evaluation, but scheduling problems sometimes precluded this interaction. The analysis of the center program highlighted this problem and changes were instituted based on that analysis in the last six months of operation. The changes included the following:

1. Evaluations were based more on content variables, i.e., the substance of what was presented rather than on the mechanics of presentation;
2. the evaluative data were analyzed and feedback provided to the workshop staff;
3. evaluation/research became more directly involved in the planning process;
4. the center management sought more direct information for the overall operation of the center program.

Training Program 1973-1974

The training activities of the RMRRC in its fourth year of operation were focused to support the stratistician service program. The stratistician program was to be developed in the two-level design discussed as the Stage Three stratistician model. The integration of the program design was to test the concept in a large number of schools, and it was decided that to make the effort successful an integrated training activity would have to be incorporated into the planned program.

The objective of the center was involve 18 to 20 special educators in the program, with the districts providing the financial support for teachers assigned in the districts. These teachers were to be qualified

Table 6.2 RMRRC Training Activities
Inservice

A. Appraisal (diagnosis, prescription, programming, evaluation, etc.)

Who	When	Where
Teachers, administrators SEDC region	February '72	Panguitch, Utah
District-wide special education teachers	May '72	Ogden, Utah
Franklin Elementary school faculty	June '72	Provo, Utah
SEDC multi-county region	July '72	Cedar City, Utah
Special & regular education teachers	August '72	Delta, Utah
District administrators & district psychologists (Millard District)	September '72	Delta, Utah
Teachers of TMR	November '72	Delta, Utah
Total faculty of 2 elementary schools	November '72	Provo, Utah
Principal and faculty	December '72	Escalante, Utah
Teachers & principal of elementary school	January '73	Ephriam, Utah
Selected resource personnel from both rural and urban school districts	March '73	Farmington, Utah
Elementary teachers from 4 districts	March '73	Cedar City, Utah

A. Appraisal (continued)

Who	When	Where
Total school faculty (emphasis on students with behavioral problems)	April '73	Mt. Pleasant, Ut.
Teachers (35) in community coordinated child care center	May '73	Butte, Montana
Special education teachers, principal	June '73	Provo, Utah
Teachers and district personnel, including District Dir. of Special Education	October '73	Vernal, Utah
AAMD	October '73	Denver, Colorado
Resource teachers Jordan School Dist.	Nov./Dec. '73	Sandy, Utah
LD teachers SEDC region	Nov./Dec. '73	St. George, Ut.
Special education faculty and students	Jan. '74	Billings, Mont.
School faculty and principal Sandy Elementary School	March '74	Sandy, Utah
Six district teams - including teachers, administrators, supt.	March '74	Phoenix, Ariz.
Curriculum conference for Alpine District special education personnel	March '74	Orem, Utah
Participating Districts Advisory Committee (PDAC)	April '74	Salt Lake City, Utah
School faculty Alpine School Dist.	April '74	American Fork, Utah

B. Needs Assessment

Who	When	Where
PDAC - SEDC region	March '72	Cedar City, Ut.
School faculty at Garrison School regarding needs of Chicano students	April '73	Garrison, Utah
Rural/Remote Conference	December '73	Portland, Ore.
Montana special education administrators (state-wide)	February '74	Big Sky, Mont.
District administrators, special and regular teachers (6 districts)	March '74	Scottsdale, Ariz.
Wyoming State Dept. of Ed.	March '74	Cheyenne and Torrington, Wyo.
State Director of Spec. Ed. and staff	March '74	Billings, Mont.

C. Student Consultation and/or Demonstration

Who	When	Where
Faculty and administration Bryce Valley High School	August '72	Bryce Valley, Ut.
Escalante Elementary School workshop and progress check	February and April '73	Escalante, Ut.
Fifth and sixth grade students (60) to initiate cross-peer tutoring system (Beaver School District)	October '73	Milford, Utah

C. Student Consultation and/or Demonstration (continued

Who	When	Where
Idaho State Dept. of Ed.	March '74	Boise, Idaho

D. Communication Skills

Who	When	Where
Parents of students in special education and 13 district special educators	May '72	Provo, Utah
Paraprofessionals and TMR teachers (Jordan School District)	July '72	Sandy, Utah
Southern Utah Supervisors Association	March '73	St. George, Ut.
Outreach staff members	May '73	East Glacier, Montana
Millard District personnel	August '73	Delta, Utah

E. The Role of the Generalist

Who	When	Where
Garfield District superintendent and curriculum supervisor	May '72	Panguitch, Utah
District administrators & generalists (Weber Dist)	August '72	Ogden, Utah

E. The Role of a Generalist (continued)

Who	When	Where
Utah Education Assn. Conv. for CEC members	September '72	Salt Lake City, Utah
WICHIE Conference	June '73	Albuquerque, N.M.
Milford Elementary School faculty	August '73	Milford, Utah
State conference on M.R.	September '73	Salt Lake City, Utah
Tooele County District Board of Education	October '73	Tooele, Utah
Resource teachers	March '74	Cheyenne, Wyo.

F. Outreach Activities - Severely Handicapped, etc.

Who	When	Where
District pupil personnel and special education directors	October '72	Salt Lake City, Utah
Parents, students of Dixie College	October '72	St. George, Utah
Montana Outreach personnel	December '72	Billings, Mont.
RMRRC staff, LEA, University of Utah and Outreach representatives	March '73	Salt Lake City, Utah
Montana CEC Conference	March '73	Helena, Mont.

F. Outreach Activities - Severely Handicapped, etc. (cont.)

Who	When	Where
Univ. of Utah personnel, USBE, Utah State Training School and parents	August '73 (2 times)	Salt Lake City, Utah
Special education teachers	October '73	Casper, Wyoming
AAMD	October '73	Denver, Colorado
Faculty and students at Eastern Montana College	November '73	Billings, Mont.
150 participants from six-county area served by Utah's Third District Juvenile Court	March '74	Provo, Utah

Preservice

A. The Stratistician Model

Who	When	Where
Graduate Students	August '72	Utah State University Logan, Utah
District special education and pupil personnel directors	November '72	USBE Salt Lake City, Ut.
National CEC Conference	April '73	Dallas, Texas
Special education students and faculty	July '73	Eastern Montana College Billings, Montana

B. Communication Skills

Who	When	Where
Special Education Faculty and Graduate Students	April '73	University of Utah Salt Lake City, Ut.

C. Appraisal Curriculum

Who	When	Where
Summer Seminar - Graduate Students	July '73	University of Utah Salt Lake City, Ut.
Faculty, students	November '73	Eastern Montana College Billings, Montana

C. Appraisal Curriculum (continued)

Who	When	Where
Graduate student class	January '74	University of Utah Salt Lake City, Ut.
Faculty, Outreach Coordinators, State Department Personnel	January '74	Helena, Montana

D. Competencies

Who	When	Where
Special Education Graduate Students	July '73	Utah State University Logan, Utah
Outreach Steering Committee	September '73	Moran, Wyoming

Table 6.3
RMRRC Available Workshops
June, 1974

Identification of Handicapped Children. Workshop focuses on teacher identification of a handicapped child through observation, comparison, and informal testing. The child's developmental discrepancies are noted to develop program objectives so that the child can achieve to his potential.

Pre-Assessment of Kindergarten Students. A process for preassessing kindergarten students for grouping and instructional objectives. For kindergarten teachers, administrators or aides.

Early Identification of Potential Learning Problems in the Pre-School or Kindergarten Child. Training in the administration of a test for early identification of high-risk kindergarten children. Diagnosis, prescription, and programming in the following areas: medical referral, visual acuity, auditory acuity, speech and articulation, cognitive processes, fine and gross motor abilities, visual perception, auditory perception, auditory discrimination, verbal expression and general knowledge. Also includes an introduction to several parent and teacher questionnaires and how they may relate to high-risk children.

Identification of the Gifted and Program Establishment. Quick methods of identifying children who are above average academically or creatively. Program development based on group components.

Referral to Diagnosis. The process which resource people use from the referral to the decision to make a diagnosis, and/or the proper diagnostic instrument.

Procedures in Diagnosis. Overview of processes used traditionally in standardized diagnosis and contemporary methods in informal diagnosis.

Synthesizing Diagnostic Information. Critical analysis of diagnostic test data and task-observational data to be summarized and interpreted for single diagnostic conclusions.

Systematic Observation of Behavior. Organizational technique in observing, recording and interpreting behavior of school children.

Selection and Training of Student Tutors. The training of a student tutor group or the tutor trainer in role identification, techniques for reading and math, material development, behavior management, and record keeping.

(continued)

Table 6.3 (continued)

School Resource Team. How to utilize team members in the group process and skills of identification, diagnosis, presecription and programming.

Task Analysis. How to task analyze any teaching objective; making terminal objectives, en route behaviors, and deciding entry behaviors.

Competency Based Training Procedures. Investigation of identified competencies of selected specialized personnel. Methods in defining teaching units and measurement of proficiency in training.

Reading Instruction. A comparison of strengths and weaknesses of various programs and of problems created as students move from one reading program to another.

Reading and Math. Specific steps in teaching mathematics and reading skills. Efficient ways of constructing work sheets and developing games to provide practice in reading and math.

Behavioral Intervention and Management Techniques. A model for an overview of comparative approaches for monitoring behavior related to student-to-student interaction, teacher-to-student interaction, administrative arrangement and classroom organization plans.

Precision Teaching. Precise measurement of behavior and steps to change the behavior.

Application of Glasser's Reality Therapy in the Classroom. Step-by-step guide on how to get children to assume responsibility for their own behavior.

Interpersonal Skills.

a. Relating as a human being
   (1) avoiding power struggles
   (2) honoring the other's state of being
b. Communication skills
   (1) sending, and
   (2) receiving messages
c. Gaining acceptance in the school system
d. Problem-solving methodologies
   (1) interpersonal
   (2) group
   (3) establishing goals.

generalists*. The generalists were to function as stratisticians with their main service activities directed to teachers of handicapped children. A group of 30 school districts, primarily located in rural areas, were invited to participate by the USBE. Twenty school districts replied to the invitation by the Deputy Superintendent for Instructional Services.

All districts responding were presented with further program details, and expectations for both the RMRRC and the district. Superintendents who were interested agreed: (1) to assign teachers on their district payroll; (2) to release the teachers one day a month during the school year for training; and (3) to participate in the evaluation of the effectiveness of the model. In return the RMRRC would: (1) provide a two-week training session during the month of August, prior to school; (2) provide personnel (an intermediate stratistician) from the center to support and backup the stratistician/generalist as he worked in the field; (3) cover the costs of the training, which would include travel, a stipend, and per diem; and (4) cover the cost of evaluation and share all evaluation data with the districts. These arrangements were to continue throughout the school year. Agreements were reached with 11 districts, and 17 special educators from 17 elementary schools.

As each participant entered the RMRRC training program he was assigned to an RMRRC intermediate stratistician, based on the geographic location of the participant's school. The intermediate stratistician followed the assigned generalists from their entry into the program to the completion of the school year. The generalists' individual needs and abilities were analyzed and responded to by the intermediate stratisticians beginning with the training session.

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*The official state certification requirements for a generalist have not yet been published. According to a USBE spokesman, the generalist concept was developed to meet the needs of handicapped children in rural areas. A generalist must be certified in some area of special education, but should be more broadly trained to serve handicapped children in several categories. A generalist category provides an option for districts to creatively meet the needs of their particular area.

The training session was felt to be an important element of the program since the RMRRC had little control over the selection of the generalists. The procedure was for the district to make the selection just as it would select staff for any other position in a school. The participants in the program therefore would have a range of backgrounds and experience levels. The RMRRC hoped to minimize this variation by providing a training program prior to the school year that would first assess each generalist's skill and knowledge levels, and then individualize a training effort to meet each persons's needs.

In order to facilitate the development of the program within school districts the training and the evaluation coordinators of the RMRRC tried to meet during August with all 17 principals of the schools and the district directors of special education from the 11 districts to orient them to the program. This orientation included an overview of the stratistician concept, an overview of the development and structure of the training program, the support service model from the RMRRC to the schools, and the evaluation process to be employed. In addition, an attempt was made to orient the faculty members of the 17 schools just prior to the start of school, or during the first two weeks of school. This procedure was undertaken to familiarize the regular classroom teachers in the 17 schools with the concept, to create awareness of the support services available to them, and to specify what the program could mean to each of them in the classroom.

Development of The Training Program

Planning of the training program began early in the year, as depicted in the work plan of Figure 6.2, and was directed toward solving potential problem areas in implementation of the training activity. Once a general framework was selected and specific planning began, three major types of constraints were determined to exist:

1. Variety of professional backgrounds in training. To function as a resource teacher or a generalist in the state of Utah, a person may hold one of four different special education endorsements: learning disabilities, mental retardation, behavioral

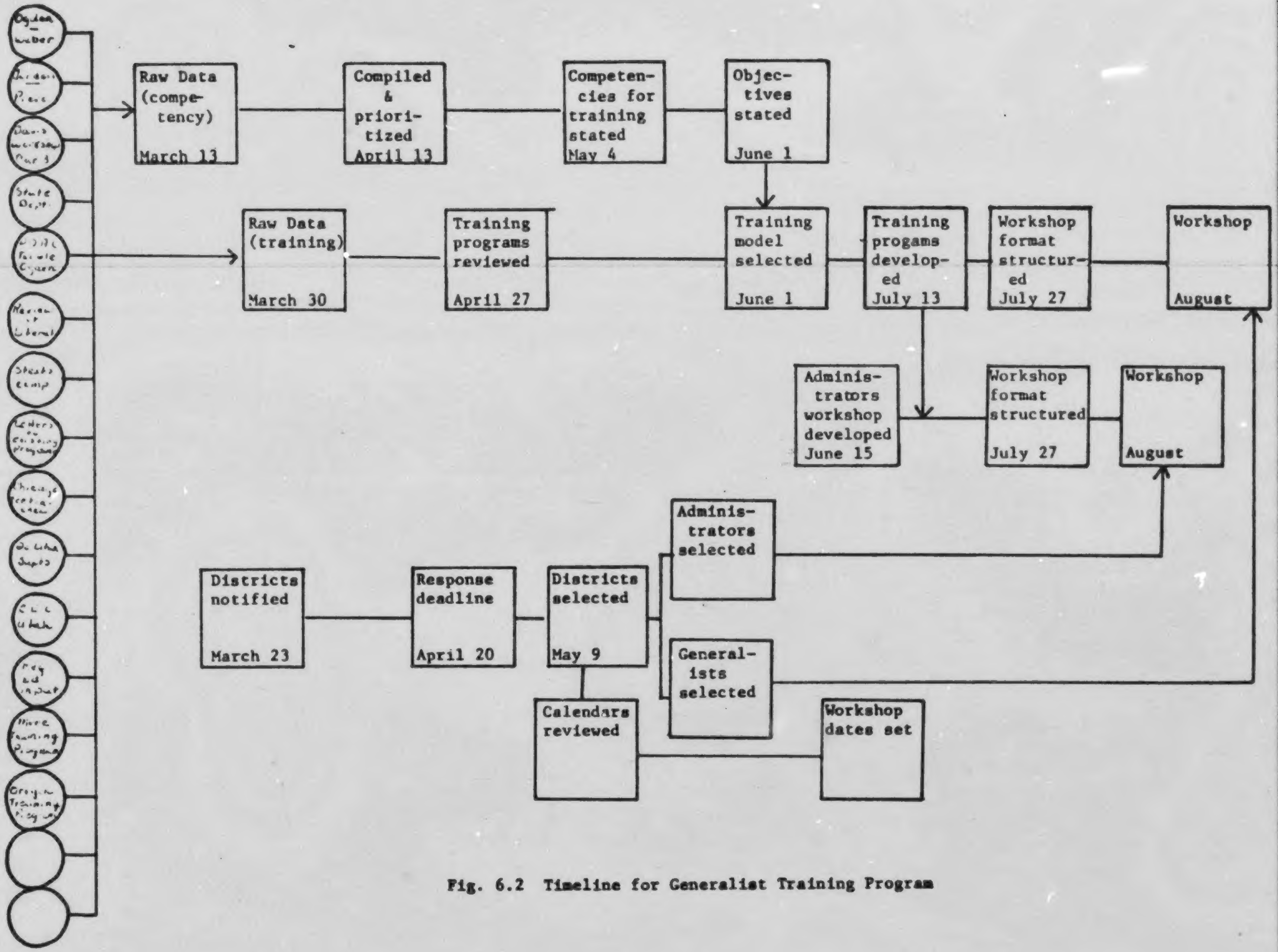
Ogden – Weber
State Dept.
More Training Programs
Oregon Training Programs
Raw Data (competency) March 13
Compiled & prioritized April 13
Competencies for training stated May 4
Objectives stated June 1
Raw Data (training) March 30
Training programs reviewed April 27
Training model selected June 1
Training progams developed July 13
Workshop format structured July 27
Workshop August
Administrators workshop developed June 15
Workshop format structured July 27
Workshop August
Administrators selected
Districts notified March 23
Response deadline April 20
Districts selected May 9
Generalists selected
Calendars reviewed
Workshop dates set

Fig. 6.2 Timeline for Generalist Training Program

disorders, or speech and hearing. The people coming into the training program could come from any or all of these four special education backgrounds. Furthermore, they would have been trained at various teacher training institutions; certification programs in the four areas vary greatly between institutions in course content.

2. Variance of professional experiences. Because the districts selected the special educators who would be participating in the program, it was anticipated that some of the special educators would have previous experience in resource rooms, some would have previous experience in regular classrooms, and some --just graduated--would not have any actual teaching experience. There were also some participants who had previously served in support roles, such as psychologist, social worker and counselor.

3. Variance in school beginning dates. Being involved in 11 districts across the state meant that some classrooms were opening as early as August 24, and others not until September 6. This variance affected the availability of the participants for training in August.

Analyses of the constraints suggested that the training program could best neutralize the negative effects of three constraints if it were designed to be individualized to each participant and competency based. These combined approaches would allow for the variance in professional expertise and experience, as well as the staggered starting dates. A period of three weeks was set aside in August, and participants could begin the training activity in any of six starting dates and would then participate for ten days.

Information upon which the competency based training program was developed came from three general sources. First, a search was made of the literature on competency based programs (Appendix F). Then several individuals working on competency based programs from across the country were contacted individually, and materials obtained from them. Data also were collected from special educators in Utah as to what skills were needed for a person to provide educational services to all types of handicapped learners. In the process, data also were collected on various methods of training for these competencies. Based on these data a decision was then made as to the most effective training model to meet the needs of the generalists.

Within the context of the training model selected an extensive evaluation was undertaken to identify the specific competencies needed to function in the generalist role. In addition to data collected in past years by the RMRRC stratisticians while they were working in the role, additional data were collected from three school districts where special educators were working in resource room/generalist programs. These resource teachers or generalists were asked to list the skills they felt were needed to fill their role--whether they had the skills or not. In some instances they were asked to prioritize the lists of skills.

Data on the skills needed to respond to specific student problems were collected through a workshop conducted by the USBE in cooperation with the RMRRC, and sponsored by Project Outreach-Utah. The participants of the workshop were invited to brainstorm their perceptions of student problems. Over 100 problems were listed and compiled into major groupings. From this data, lists of teacher skills needed to help meet the identified needs were then generated. (A list of the printed materials on needed skills comprises Appendix G.)

To summarize, a data base on individualized and competency-based teacher training was gathered from RMRRC stratisticians, local districts, and the USBE workshop. The data were then pooled with information gathered from various universities, teacher training institutions, and state departments of education--all of them involved in competency based or performance-based programs. An RMRRC staff member gestalted this material and provided a list of all competencies suggested as well as a frequency count to determine those most frequently suggested. The competencies fell into the content areas of identification, diagnosis, prescription, programming, evaluation and interpersonal skills. The first five content areas were consistent with the Regional Resource Center mandate for service under PL 91-230. Interpersonal skills was a high-frequency compentency area, especially in the field data.

During the period in which competencies were being identified, the structure of existing competency based training programs was being reviewed. Most training programs reviewed identified important content areas, but few training programs specified clearly the levels to which one should "know" a content area, or the process level at which one would use the information. Two notable exceptions are the Meyen and Altman training program (1973) at the University of Missouri, and L. E. McCleary's training program (1973) at the University of Utah. Meyen and Altman talked about an awareness, understanding, application level; McCleary about familiarity, understanding, and application levels of utilizing information.

In order to build a similar definition of structure the RMRRC staff adopted, from Bloom's Taxonomy of Educational Objectives (1956), the process level from the data base generated on skills and competencies. The resultant content-process areas form a matrix (presented in Table 6.4) from which competency statements were generated.

This matrix aided the decision-making process in developing training modules; i.e., to which level does a given person need to know certain information, and in which certain content areas. Decisions were made as to what a stratistician needs only to know compared with what he actually needs to be able to do. The competency statements were crystallized into statements around which training modules were developed. (Table 6.5). These modules were numbered 1 through 24 and the numbers were placed in the appropriate content-process square in the matrix. Each module was to be developed based on the content area and the process involved.

Training Program

RMRRC staff members, utilizing the procedure described, developed the training program. The competencies that were to be required of participants in the training are defined in Table 6.5. The statements were related to specific training packages. The outline of the content of these packages is presented in Appendix H. The outline was developed from the material described in the preceding section; as module

Table 6.4 Placement of Learning Modules by Number on the Content-Process Grid

Content

PROCESS	IDENITY	DIAGNOSE	PRESCRIBE	PROGRAM	EVALUATE	INTER SKILLS
KNOWLEDGE (recall)						a b c d
COMPREHENSION (understanding)	1 2	7 8		19		
APPLICATION (use)	3 4	9 10		20		
ANALYSIS (clarify)	5	11 12 13	16			
SYNTHESIS (regestalt)			17	21	23	
EVALUATION (judgment)	6	14 15	18	22	24	

Table 6.5

COMPETENCY STATEMENTS

IDENTIFICATION

Module No.

1. The generalist shall demonstrate an understanding of specific speciality areas and classification criteria.

2. The generalist shall demonstrate an understanding of learning theories.

3. The generalist shall utilize conventional task analysis of basic subject areas.

4. The generalist shall utilize conventional process analysis of basic subskills (in task analysis).

5. The generalist shall interpret personality behavioral patterns.

6. The generalist shall synthesize identification factors and derive a diagnostic direction.

DIAGNOSIS

7. The generalist shall demonstrate an understanding of student demographic variables.

8. The generalist shall demonstrate an understanding of formal test batteries.

9. The generalist shall administer formal test batteries.

10. The generalist shall administer informal test batteries.

11. The generalist shall interpret formal test batteries.

12. The generalist shall interpret informal test batteries.

13. The generalist shall interpret pupil interviews and observations.

14. The generalist shall formulate a diagnostic statement from a single test.

15. The generalist shall formulate diagnostic conclusions from cumulative information.

Table 6.5 (continued)

PRESCRIPTION

Module No.

16. The generalist shall interpret the results of task and process analysis.

17. The generalist shall write a statement(s) about a student's learning style based on strengths and weaknesses.

18. The generalist shall match diagnostic appraisal with a remedial approach.

PROGRAMMING

19. The generalist shall demonstrate understanding of purpose and use of instructional material.

20. The generalist shall demonstrate the use of instructional methods/techniques.

21. The generalist shall match instructional materials and/or methods/techniques with diagnostic-remedial approach.

22. The generalist shall specify performance criteria within an instructional program.

EVALUATION

23. The generalist shall match performance adjustment to performance criteria.

24. The generalist shall determine adjustment as acceptable or unacceptable.

INTERPERSONAL COMMUNICATION SKILLS

A. The generalists shall demonstrate an awareness of:

(1) Important factors in relating as a human being
(2) Important factors in the communication process between two people.
(3) Problem solving methodology
(4) Factors critical to acceptance in the schools.

development proceeded, however, modifications in the outlined items were made to improve the scope of training.

The transformation of the material from an outline to a complete module was undertaken by giving each module outline to an individual with specific training in the given competency area. Most of the modules were completed by RMRRC staff members. However, material for module 1, on identification, was contributed by several prominent university, local and state educational leaders from Utah. The source list for Module 1 is presented in Table 6.6. This approach was designed to utilize the range of resource skills and expertise available to the RMRRC.

A pretest question, a posttest question, and a performance objective were also written for each module. The pretest questions were a placement test to determine whether or not a particular participant needed further training in each competency area. Each participant's responses to the pretest questionnaire created a profile that defined which of the 24 modules could be skipped, and which would require the provision of training. The performance objective of each competency area was used to enable the trainer to know when the participant was finished with a particular module, and the posttest question was used to evaluate the effectiveness of the training program.

The pretest questions were sent to the participating stratistician/generalists during the month of July. As answers were returned, they were scored and used to develop individual profiles indicating which modules each individual needed or did not need. With this information the staff at the RMRRC geared a training program to fit the individual needs of each program participant.

Using the above method the RMRRC intermediate stratistician assigned to each participant had a profile of the individual's needs. Through the use of the content-process matrix the stratistician worked out a time schedule, by dividing each of the ten days into two three-hour blocks. The participant would then be grouped in those time blocks with others going through the same material at specific times. A participant could be part of the total group, in a small group (perhaps with just one other), or be working by himself--depending on his needs and the needs

Table 6.6 Module 1: Identification Source List

1. Emotionally Disturbed	Anthony LaPray, Ed. D. University of Utah
2. Educable Mentally Retarded	Robert L. Erdman, Ed. D. University of Utah Phil Chinn, Ed. D. University of Utah
3. Trainable Mentally Retarded	Mabel Eide, B.A. Granite Training Center
4. Learning Disabled	C. W. Freston, Ph. D. University of Utah Betty D. Harrison, Ph.D. Brigham Young University
5. Hearing Impairment	Grant Bitter, Ed. D. University of Utah
6. Visually Handicapped	Ruth Craig, M. A. Brigham Young Unversity
7. Speech and Hearing Impairment	Mae Taylor, M.S. Utah State Board of Education
8. Cerebral Palsy	Compiled Sources Brigham Young University
9. Kirk Profiles	Reprinted by Permission from Houghton Mifflin Company
10. Supplementary Reading	

of the others in the training program.

Each participant received copies of the 24 modules for reference, even if the person did not need to undertake training in all 24 areas. At the end of the two-week training, the participant completed a posttest. The intermediate stratistician who was responsible for guiding the participant through the training program was the one assigned to provide back-up support and ongoing training to the participant throughout the school year.

To augment the initial training, a resource support system was developed by the RMRRC (including further training) and was administered by the assigned intermediate stratistician. The RMRRC support system was meant to supplement--*not supplant*--any other support service the classroom teacher had available. The classroom teacher was encouraged to use district psychologists, social workers, nurses, counselors, as well as the USBE specialists or any other available resource. The ultimate goal was to provide the best possible educational support to the student.

The generalists were visited in their schools at least twice a month, and often more frequently by one of the three RMRRC intermediate stratisticians. These sessions allowed generalists regular interchange with a highly skilled professional who could respond to their needs for assistance or for personalized training (if needed). In addition to receiving regular personal visits from intermediate stratisticians, the stratistician/generalists had monthly meetings at the RMRRC for additional training. Information presented at these meetings included:

Initial referrals
Selection of diagnostic instruments
Systematic observation of behavior instrument
Children with behavioral disorders
Visits to exemplary centers
    a) in school districts
    b) in private clinics
Presentations by stratistician/generalists on unique plans they have instituted in their schools.

Evaluation and Discussion

In order to evaluate the impact of the stratistician/generalist model, the RMRRC decided to collect data from several sources including children (handicapped and non-handicapped), teachers and administrators. The diagram below presents a brief outline of the scope of the evaluation plan:

Children

1. Achievement
2. Intelligence
3. Socio-emotional

Teachers

1. Perceptions of classroom climate and attitudes toward certain philosophies of education.
2. Impressions and observations of selected children in the classroom.

Administrators

1. Questionnaires for principals, directors of special education and superintendents, on descriptive information from the school district.

The above evaluation plan was based on the use of materials developed in Project PRIME. The design and its problems are discussed in Chapter 4. The design illustrates the integration of the evaluation of the service delivery model with the training activity. The integrated nature of both activities made it difficult to evaluate the component activities separately.

An effort at evaluating the competency levels on a pre-post-post basis (July, 1973; August, 1973; and June, 1974) was undertaken using other instrumentation. The instrumentation sought to establish knowledge about competency areas and the results are reported in Chapter 4. Additional information was gathered using a questionnaire at a June, 1974 debriefing and is also discussed in Chapter 4.

Summary

RMRRC training activities began with programs to prepare the stratisticians to serve as a resource person for teachers; the first expansion of training activities included workshops or inservice training sessions for teachers in the stratisticians schools. From there, activities expanded to include teachers and others outside the stratistician schools, including preservice training activities in teacher training institutions. The experience gained from responding to workshop requests and from analysis of the types of requests received formed the basis for development of the sratistician/generalist training program.

The RMRRC training manual is currently being revised and updated to include information from the original program plus modifications and additions suggested by the year's experience with the stratistician/generalists and their input at the end of the year. The content in the revised program will include material used in workshops, inservice and preservice training sessions, and presentations made by the RMRRC over the four-year period.

Chapter 7

RESEARCH AND EVALUATION ACTIVITY

Of all of the activities of the center, the most difficult to separately chronicle is the research and evaluation component. In most instances research and evaluation fused into one activity and that activity in turn fused into the component activites of the center. Pure research was never considered an appropriate center activity. Applied research was considered appropriate if it were related to service developments which were based upon state and/or regional needs. Therefore, the overall research thrust of the center was minimal. Specific activities related to Outreach programs and flow-through monies are discussed in Volume III of this report.

Evaluation, from the center's inception, was considered an integral part of center design, both for accountability and for program monitoring and guidance. The development of an evaluation model which would address planning, management and operations of a large-scale regional program was never successfully completed. No existing model was found that was applicable; the problems of developing a model were compounded when the thrust was changed from a state to a regional program. The specified entry into the educational systems was at an indirect service level (SEA) and the required accountability was at a direct service level (LEA). This issue was addressed with various methods, but none completely satisfied the center evaluation staff.

Inherent in the problem of accountability is that child counts are not particularly good measures of a center's impact on educational programs. The number of regional forces and programs that jointly impact on a child is rather large; hence the development of an accountability system requires methods of seeking to assign weight to changes in children (or services to children) so that a multiplicity of agencies do not all count the child change as due solely to their efforts. Also, child counts do not represent qualitative change.

Specific research issues were investigated during the project. These research activities focused on the development of supportive data for the ongoing service program and almost exclusively revolved about the stratistician program. The general history of the research program is depicted graphically in Figure 7.1. The integration of the evaluation function into the other center programs is also visible in the graphic model. The following section will discuss this overall activity; appendices on the three primary research efforts provide examples of the research activity.

Evaluation and Research Interaction

The shifts in the focus of the evaluation activity paralleled the shifts in the service process described in the review of the stratistician model. The early evaluation activities were envisioned as part of an applied research activity that included needs assessment and measure development. This evaluation activity continued through the second year. The study of affective teacher behavior, stemming from the first year's research, was initiated and continued through the third year of the project as a separate study rather than as an evaluative activity.

Changes in the focus of the evaluation component are documented in the yearly proposals. The yearly replanning, based upon feedback from the previous year and on BEH directives, resulted in changes in staff or organizational structure which in turn influenced the design and implementation of evaluative activities. These changes will be reported in the following chronological description of the conceptualization and outcomes of separate evaluation projects.

During the first year of the project, two of the three research studies reported in the appendices were initiated. One study undertook a needs assessment that provided the preliminary information for launching of the stratistician model. The other study was designed to validate the use of a teacher observation instrument measuring the affective behaviors of teachers and their relationship to student achievement. These two studies bequeathed two separate lines of evaluation activity. The main activity stemmed from the needs assessment and supported the stratistician

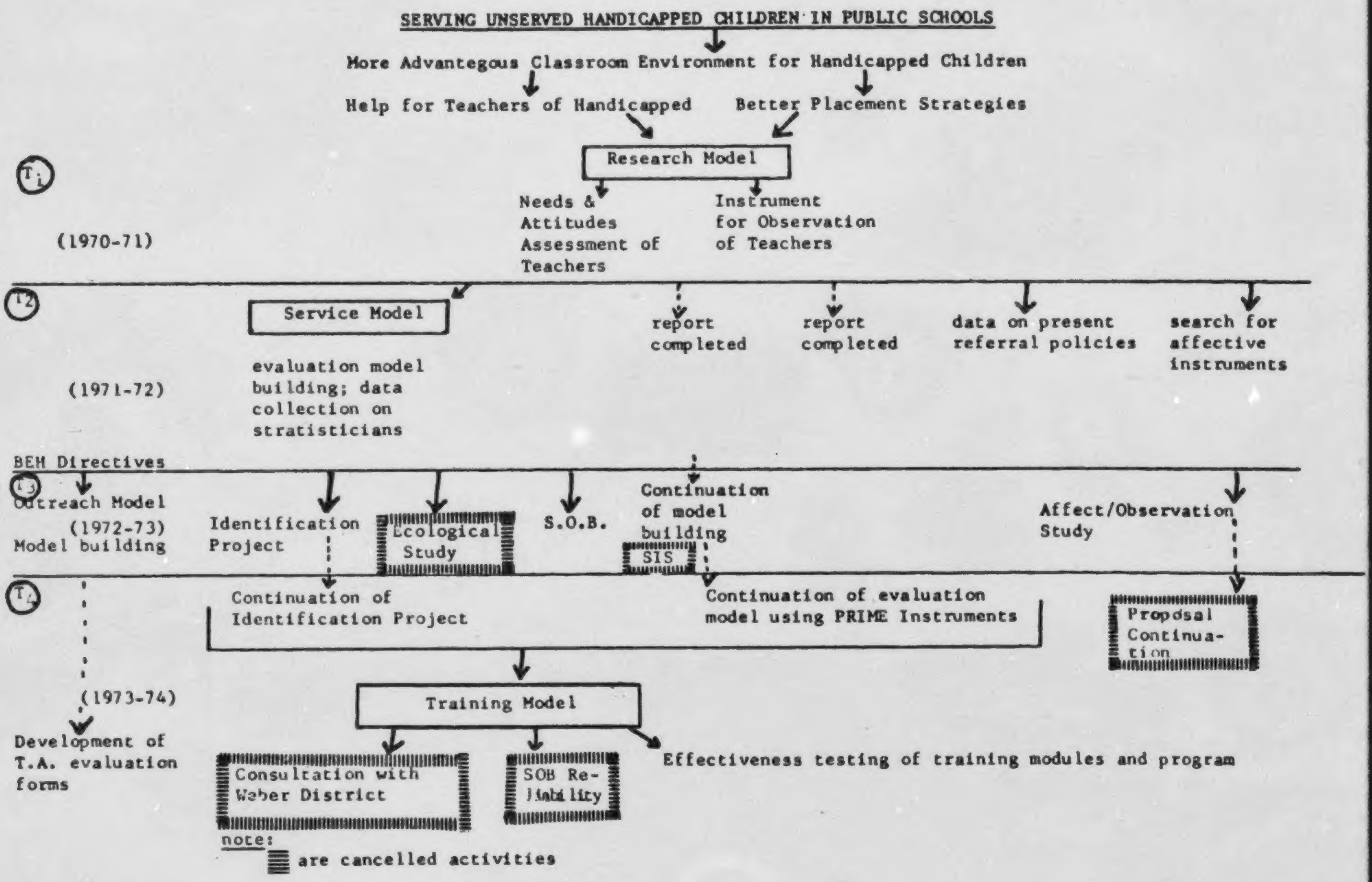
SERVING UNSERVED HANDICAPPED CHILDREN IN PUBLIC SCHOOLS
More Advantegous Classroom Environment for Handicapped Children
Help for Teachers of Handicapped
Better Placement Strategies
Research Model
T1
(1970-71)
Needs & Attitudes Assessment of Teachers
Instrument for Observation of Teachers
T2
Service Model
report completed
report completed
data on present referral policies
search for affective instruments
(1971-72)
evaluation model building; data collection on stratisticians
BEH Directives
T3
Outreach Model
(1972-73)
Model building
Identification Project
Ecological Study
S.O.B.
Continuation of model building
SIS
Affect/Observation Study
T4
Continuation of Identification Project
Continuation of evaluation model using PRIME Instruments
Proposal Continuation
(1973-74)
Training Model
Development of T.A. evaluation forms
Consultation with Weber District
SOB Reliability
Effectiveness testing of training modules and program
note:
▤ are cancelled activities

Fig. 7.1 Evolution of Evaluative Activities

model; it will be followed through before reporting on the lesser activity in the affective area.

The needs assessment was undertaken with a teacher questionnaire intended to determine the types of classroom problems the stratistician would likely face (Appendix I). Knowledge of these existing problems was to be used in both the selection of the stratisticians and in the development of a training program to prepare them for working with the teacher in the regular classroom. Included in the survey were questions concerning basic issues such as nonlabeling and normalization; questions concerning the availability of resources; and items eliciting reactions to the proposed stratistician model.

The analysis of the data from the assessment confirmed the existence of classroom behavior problems, solutions for which teachers had few resources. In a class of 30 children, an average of 5.3 children were classified as "difficult." Teachers estimated that this 17.6 percent of the class occupied 26.4 percent of their classroom time. Of the respondents, 84 percent requested more special services; the teachers expressed a generally positive attitude toward the proposed service model.

With respect to issues involved in normalization, teachers agreed that integration into the classroom would improve the handicapped child's acceptance by "normal" peers. However traditional attitudes were strongly evidenced in agreement that nonlabeling was idealistic and would never be fully achieved; that major problems would be created by large-scale transfers of the handicapped into regular classrooms; and that special education classes were justified. Based on this information, it was decided that the stratistician model would be implemented to help teachers deal with identified handicapped children placed in their class, as well as with the "difficult" 17 percent population in their classrooms which was expected to include a large number of the unidentified handicapped.

Data were to be gathered by stratisticians in the process of providing services to determine whether the 17 percent difficult classroom students were part of the estimated 40 percent of Utah's unidentified, unserved handicapped children. A data bank was to be established at the center using the stratistician-developed data and would include information on incidence and types of handicapping conditions, diagnoses, prescriptions, interventions and their relative successes.

At the end of this research phase, major staff additions were made to enable the implementation of the service phase at the beginning of the project's second year. Stratisticians were hired, and the evaluation component was enlarged to include additional research assistants, a research psychologist, and an evaluation director.

The research undertaken in preparation for initiating services had been oriented toward determining the feasibility of the stratistician model, but not toward its implementation, specific operation, nor evaluation. The assessment data had indicated a strong difference in attitudes existed between suburban and rural school district personnel. The center interpreted this difference among districts to indicate that the stratistician role must be allowed to evolve differentially in response to the situational variables of a particular placement. In fact, a study of differential placements in a stratified rural/suburban sample was intended to demonstrate if it was necessary for roles to differ between educational settings. The study also was to test the overall effects of the placement of a special educator who would serve as a resource to teachers. Both stratistician and evaluator were placed in the position of responding to immediate demands of the specific environment as well as building a model which would transcend any specific environment.

The evaluation team engaged in searching for alternative measures which would satisfy both the field and evaluation needs. Evaluators were charged with tracking not only the incidence of referrals and their outcomes, but the affective process of interaction between stratistician and teacher which contributed to or diminished the success of the stratistician intervention. The process was to be described across and between schools, and was to be measured unobtrusively. As successive data collection forms were found unsuitable, resisted, or forestalled, evaluators settled for the collection of frequency data only, and turned their attention toward plans for the third year of funding.

It was at this time that the results of the initial year's study on teacher observation became salient. If the observation technique could be validated as a formal instrument, the measurement problems of the second year could be circumvented. If successfully validated, the observation technique would have served the following purposes: a tool for stratisticians to use in their feedback to teachers; an objective measure of affective interaction processes between stratisticians and teachers for purposes of evaluation; a baseline and post-stratistician data collection instrument for teachers in their classrooms.

A group of raters trained in this observation technique could serve as a resource to the region as well as to the RMRRC and local districts. The existing literature concerning the observation technique and its theoretical base could provide a foundation for interpretation of and training in affective interaction processes. Lastly, the observation data could be used for the experimental matching of children with particular handicapping condition to individual teachers.

The study undertaken showed that the observers trained the first year failed to discriminate differences in characteristics among the sample of target teachers. As measured by the self-report validation instrument, there was not enough variance in the sample to enable a satisfactory interrater reliability to be obtained. The negative outcomes of the study meant that the objectives outlined had to be achieved using other techniques. (See Appendix J.)

Additions in staffing that occurred between the first and second year influenced the transition between conceptualization and outcome. The consultants who had supervised the two original research projects had an idealogical bent toward the affective domain. Their objectives for the project were to develop techniques of matching teachers appropriately to the needs of the individual handicapped child, and to have the stratistician influence classroom atmosphere on the affective level.

In August, 1971, a research director and an evaluation staff with a more behavioristic orientation were hired. The affective dimension was de-emphasized and overshadowed by the aforementioned struggle with evaluation program design and the search for stratistician-tracking instrumentation.

Only two other research activities were maintained outside the major forces of the 1971-72 evaluation and both of these activities were undertaken on a minimal level. One of these, a survey of district policies and procedures for placement of the handicapped, was initiated to obtain information relevant to placement and matching of handicapped students and specialized services. A sample of twelve schools in six districts was chosen; the schools represented urban and rural districts. Complete responses were received from eight schools in five districts. The responses indicated that larger districts with more available resources generally implement a more complicated referral process. All schools, however, follow the same general process: 1) teacher refers student; 2) psychologist sees student; 3) committee or team reviews case; 4) student placement is determined.

The last of the research projects gained impetus from two sources. Following the first year's failure to validate an affective observation instrument, a literature survey was continued through the second year to find new materials which could be adapted for classroom observation of teacher-student interaction on the affective level. From this survey, a bibliography (Appendix K) was produced which served as the foundation for the affective research.

Another factor which encouraged the affective research was a site visit during the spring of 1972; site team members had emphasized the importance of "individualization" as a general thrust. This led to the development of two research proposals, one on ecological differences among schools and one on affective differences among teachers and students; staff expertise lent itself to these directions and the site team members supported the ideas.

The affective research proposal was approved, completed, and appears in Appendix L, as a third example of research. The outcomes from the affective study included a working paper, a battery of assessment techniques in teacher attitudes and classroom affective styles, a video-tape library for use in preservice and inservice training or observed training, a data baseline in teacher styles emerging from the preservice program in the Department of Special Education, University of Utah, and a modification of the naive-observer-rating method for quick, comparatively simple training of future raters.

The ecological research proposal was denied approval by the RMRRC Executive Board on the basis that a majority of the questions concerned religious affiliation and minority status and were considered invasions of privacy. This proposal was never resubmitted due to an extended sick leave by the principal developer.

The "invasion of privacy" concern also was raised by the Utah State Board of Education (USBE) with respect to another proposal, which would have provided a comprehensive evaluation design comparing schools with stratistician placements. With the cooperation of the USBE, the data would have been collected from the state's computerized Student Information System (SIS). The deisgn would have provided a larger population and a functional feedback system regarding needs, problem-solving data, etc, for planning use by the USBE.

The evaluation staff concentrated on the problem of measuring the effect of the stratistician role, and developing a system for tracking. As the data in Chapter 2 indicates, the latter problem was partially solved, but not the former.

A second evaluation project was undertaken toward the end of the 1972-73 year, in an effort to determine if the stratistician model of informal teacher referral were a valid method for identifying handicapped students, and if it were an effective model for reaching the unserved handicapped population. During the previous year, the results of Project Identification (undertaken by USBE) indicated that teachers had correctly identified handicapped children 85 percent of the time. This had been confirmed by a post-hoc psychometric analysis of a large sample of the teacher-identified children.

A staff member was assigned to determine the overlap between children referred by teachers to Project I.D. as handicapped and those referred to the stratistician in that school for that year. The overlap was roughly 33 percent; i.e., 33 percent of the total number of students referred were referred to both Project I.D. and to the stratistician.

This data seemed to warrant future involvement with Project I.D. Plans were made for a second determination of overlap (in 1973-74) with the addition of psychometric testing of a sample of those served by the stratistician but not referred to Project I.D. The results of this effort were discussed in Chapter 2.

During the fourth and final year of the RMRRC grant, ancillary evaluation events were: (a) follow-through on plans for involvement with Project I.D. which is reported in Chapter 2; (b) further development of the Outreach model with one evaluation staff member reassigned as specialist in evaluation for Outreach exclusively (discussed in Volume III of this report), and (c) the proposal of an in-depth study continuing the affective focus. Subjects for the proposed affective study were to be obtained from students enrolled in an adult education class, University of Utah. However, enrollment was not sufficient for the sample nor to sustain the class, and the proposal could not be carried through.

Except for the Outreach evaluation assignment, evaluation during the fourth year concentrated on evaluating the training and service models. This effort is detailed in Chapter 4 of this report. Briefly, there were three major points where evaluation was needed: first, evaluation of the stratistician model utilizing district-hired personnel (stratistician/generalists) and supervised by the experienced center stratisticians (then called intermediate stratisticians); secondly, reliability testing on the observation measure developed by the stratisticians in the summer of 1973, the Systematic Observation of Behaviors (SOB); finally, evaluation of the training program (with training modules) developed by the intermediate stratisticians for training of the stratistician/generalists. Those results are reported in the chapter discussing the last year of the stratistician project. Appendices at the end of this volume present three of the working papers that resulted from the research discussed.

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Appendix A

Exhibit A.1. Stratistician Data Collection Forms

Exhibit A.2. Problem Thesaurus

Appendix A.1. Stratistician Data Collection Forms*

(01) PROBLEM IDENTIFICATION PHASE
(Descriptive Data

Date
Stratistician's Name
Student's Name

Student

Name
Age (date of birth)
Sex
Ethnicity
Grade
Other

School

Teacher
Sex Ethnicity
Class Size
Years of teaching
Type of teaching

Referral Method (Mark)

formal	initiated by:
informal	teacher
records	stratistician
previously existing	principal
	other personnel

Home

Implements suggestions	1 2 3 4 5 6	Does not implement
Consistent in implementing	1 2 3 4 5 6	Inconsistent
Understanding or nature of problem	1 2 3 4 5 6	Non-understanding
Apathetic about problem	1 2 3 4 5 6	Concerned
Actively supportive of efforts	1 2 3 4 5 6	Passively Supportive
Actively resistant to efforts	1 2 3 4 5 6	Passively resistant
Hostile to child	1 2 3 4 5 6	Accepting

Source of information

Problem Description		Teacher Description
By Teacher	By Strat	By Strat

Location of problem: class hall cafeteria lavatory playground home other
Student observed by Strat. class hall cafeteria lavatory playground home other

* All information on forms is reported, but form has been altered to fit required report margins.

(02) PROBLEM SOLVING PHASE
(Task Information)

Date
Stratistician's Name
Student's Name

Desired Change

Alternatives: considered

suggested
(list numbers)

Method of Formulation

1. stratistician initiated alone
2. stratistician initiated with help o
   personnel sources
3. stratistician initiated with help o
   RMRRC materials and sources
4. stratistician with teacher
5. teacher suggested to stratistician

other:

Rationale: for selection of suggestions

for de-selection of rejected alternativ

(03) PROBLEM EVALUATION PHASE
(Outcome Information)

Date
Stratistician's Name
Student's Name

Outcome With Student

	Positive change	Negative change	Comments
Change in Academic	1 2 3 4 5 6	1 2 3 4 5 6	
Social	1 2 3 4 5 6	1 2 3 4 5 6	
Home	1 2 3 4 5 6	1 2 3 4 5 6	

Alternatives Utilized		Reasons for Success or Failure	
Teacher's opinion	Strat's opinion	Teacher's opinion	Strat's Opinio

---

Other Outcome: Ripple Effect — Comments

Teacher making own suggestions	no	yes		1 2 3 4 5 6	many	
with subject	no	yes		1 2 3 4 5 6	many	
with other students	no	yes		1 2 3 4 5 6	many	
Teacher following strat's suggestions	no	yes	few	1 2 3 4 5 6	many	
with subject	no	yes	few	1 2 3 4 5 6	many	
with other students	no	yes	few	1 2 3 4 5 6	many	
Additional referrals to stratistician	no	yes	few	1 2 3 4 5 6	many	
Administrative support of strat	no	yes	less	1 2 3 4 5 6	more	

Appendix A.2. Problem Thesaurus

EDUCATIONAL

Association---investing meaning in the stimulus

Auditory association---appears to hear and remember stimulus--can repeat--but stimulus has no meaning and is not related relevantly to other stimuli

Auditory memory---appears to hear but does not remember stimulus--no meaning yet attached

Auditory perception---does not appear to hear stimulus in presence of evidence of adequate organ function--no meaning yet attached

Auditory receptive---intake through hearing

Auditory sequencing---cannot repeat an auditory stimulus, as would be expected for MA and CA, correctly and in order

Developmental delay---abilities below expected CA norms

Doesn't attempt work---will not without much pressure attempt an assignment

Doesn't complete work---attempts but does not, without much help or attention, complete the work

Doesn't follow directions---either seems to forget or not to understand instructions

Doesn't understand task---attempts and even completes the assignment (in the child's perception) but the completed work is inappropriate to the task

Handedness---handedness incompletely established; mixed dominance

Impulsive---an inappropriate, seemingly sudden response to a stimulus

Inconsistent achievement---works well, comparatively, at one time and poorly at others so that teacher thinks he *could* if he *would*

Memory---storage of stimuli

Memory-agnosia---can't find the right word; doesn't recognize it

Motor apraxia---can't remember the motor pattern of the word

Not achieving---not able to do work at level *expected by teacher*

Perception---reception of stimuli implies adequate sense organ functions

Perseveration---continuation of a response after the cessation of an appropriate stimulus

Reading---the apparent inability to read, the apparent inability to learn to read or a significant difference in reading ability and grade placement and/or MA

Sequencing---order memory of the stimulus

Sequencing---telegraphic speech, articulation errors, can't find the right word, but can recognize it

Short attention span---in relation to peers, age, or development; appears to be attending less time than would be expected for MA and CA

Verbal expressive---oral language

Visual acuity----physical inability after correction, verified by a qualified examination or ophthalmologist of stimulus through vision

MOTOR

Motor---lack of coordination

Tactual association---appears to note and remember characteristics of stimulus, but stimulus has no meaning and is not related to other relevant stimuli

Tactual memory---appears to note characteristics of stimulus but does not remember--no meaning attached

Tactual perception---does not appear to note characteristics of stimulus in presence of adequate organ function--no meaning yet attached

Tactual receptive---intake through sense of touch

Visual association---appears to see and remember stimulus--can reproduce, but stimulus has no meaning and is not related relevantly

Visual memory---appears to see stimulus but does not remember--no meaning attached to visual stimulus

Visual perception---does not appear to see stimulus in presence of evidence (examination by licensed optometrist or ophthalmologist) of adequate organ function--no meaning attached to visual stimulus

Visual receptive---intake through vision

Visual sequencing---cannot reproduce a visual stimuli correctly and in order

PSYCHO-SOCIAL

Aggressive---acting out; hostile; primitive

Anti-social behaviors---cheating; stealing; lying; etc.

Anxious---crying, wet palms; etc.

Compulsive---must complete task; must have desk arranged just so; perfectionist; never satisfied with finished work

Depressed---sullen; unwilling to try; "flat" affect; crying

Disruptive---noisy; disturbing other children; poking; hitting; pushing others more frequently than other children in room

Distractible---short attention span; attending to all, some inappropriate stimuli

Inappropriate reaction---extreme mood fluctuation; laughing when others are crying; etc.

Inconsistent and highly variable---work, emotion and social behaviors varying a great deal from day to day

Insecure-attention seeking---frequently asking for teacher's assistance or attention; showing off; etc.

Insecure-withdrawn---shy; doesn't try tasks; doesn't establish peer relationships; doesn't ask for needed instruction from teacher; etc.

Isolated---peers and/or adults seem to ignore

Messy---beyond what might be expected for age and grade

Motivation---goal seeking by the individual in response to intrinsic or extrinsic rewards

Not attending---daydreaming; looking out of window, attention focused on an inappropriate task

Psycho-somatic---physical disturbance such as headache, dizziness, stomach-ache, without known physiological bases

Rejected---peers and/or adults seem to actively dislike

Restless---out of chair and moving about room much more frequently than other children when expected to be quiet; if in chair, moving frequently; rustling papers; dropping pencils; etc.

Sex-related---any problems related to sexual activities or development in the child

WRITTEN LANGUAGE

Association---visual-motor dysfunction; can't generate written language; doesn't recognize (dysgraphia)

Memory---doesn't recognize or generate written language

Sequencing---doesn't get numbers, letters or words in proper order (dysgraphia or dyscalculia)

INTERVENTIONS

Alter enviornment---change conditions that might affect the child's behavior (educationally or psycho-socially), e.g., change teachers if personality differences exist, rearrange classroom, provide quiet study time at home

Behavior modification---application of conditioning techniques to alter behavior of a child or of a class

Counseling---discussion with a child, teacher, or other staff member on a perceived school or personal problem

Informal diagnosis---attempt to determine child's level of function, disability area or areas and "best" learning modality through teaching, analysis of work examples, or non-standardized or formalized tests

Medical exam---examination by licensed physician or school nurse to determine the presence or absence of physical conditions that might affect the child's behavior

Modality change---instruction through a modality other than the one used predominantly in the past; e.g., if classroom (or personalized instruction) has been predominantly visual, the change could be to auditory presentation (or tactual)

Parent conference---discussion with the parent, parents or parent surrogate about the child; the discussion may include the teacher, stratistician, child and any other member of the school staff or any combination thereof

Peer interaction---provision of an opportunity for the referred child to work with or engage socially with a peer or peers

Program level---grade level at which the child's academic work is programmed

Psychological testing---administration of any standardized achievement, intellectual, psycho-linguistic, psycho-motor and/or personality tests

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Resource aide---any person within school district personnel asked to intervene in problem solution

Resource agency---any person or institution outside of school district personnel asked to intervene in problem solution

Special placement---placement in special education program on full or part-time basis

Specific curricula---any materials used to meet a child's needs other than state-adapted texts and supplementary materials

Staff interaction---discussion of or information gathering for diagnosis and prescription for an individual child with any other school staff or RMRRC staff member

Status improvement---manipulation from the environment to provide a more positive response, e.g., appointment of the child to a classroom assignment, encouragement of an older child to be a "friend"

Task analysis---examination of sub-skills required for adequate performance of an academic task

Teacher in-service---explanation of training in educational program, materials, methods, guiding in modeling of eliciting from a teacher or teachers in or implementation of prescriptions and/or classroom techniques

PRESCRIPTIONS

Aversive reinforcement---punishment; verbal, physical or social

Change activities---change the situation in which undesired behaviors are occurring in an effort to reduce those behaviors

Confrontation---reality theory--discussing child's behavior and consequences of behavior with him

Consistency---responding in the same way to all examples of the behavior

Contingency---instrumental conditioning--positive reinforcement given only in the presence of desired behaviors; some time-lapse between performance and reward may be included

Dissonance---introduction of unexpected stimuli to attract the child's attention or to distract the child from undesired behavior

Motor development---program of physical activities designed to improve coordination, etc.

Negative reinforcement---actually no reinforcement; extinction

Positive reinforcement---reward of desired behaviors

Proximity---standing or sitting near the child

Reduce stimulus---removal from the group, screening of desk, move desk away from window, etc.; any or all to reduce distraction

Tutoring---instruction of single child by teacher, aide, older student, etc.

Appendix B

Cross-Peer Tutor Program

Appendix B

CROSS-PEER TUTOR PROGRAM[1]

Susan B. Harrison

Working Paper No. 7

August, 1973

ROCKY MOUNTAIN REGIONAL RESOURCE CENTER
DEPARTMENT OF SPECIAL EDUCATION
UNIVERSITY OF UTAH

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These papers are intended primarily as informal communications to, and among members of the RMRRC staff and faculty of the Department of Special Education. The materials contained herein are generally not in final stages of refinement and are not to be cited without the author's permission.

CROSS-PEER TUTOR PROGRAM

Susan B. Harrison

I. Introduction

This report concerns a cross-peer tutor program established in 1972-73 in one elementary school in Utah. It is a school with extensive special service including a resource teacher and six teaching aides, plus a stratistician assigned from the Rocky Mountain Regional Resource Center (RMRRC). Still, only a small portion of the handicapped students or students referred to the resource teacher were being served. An effort to mainstream most students in the school district had begun in full during the year, and most of the teachers had little preparation for mainstreaming. Many were either inadequately trained, or, at least felt as though they were inadequately trained. A tutor program was established by the stratistician both to help ease the increased differentiated class load, and to serve as an in-service tool.

II. Rationale

Cross-peer tutoring was established for the classroom teacher, for the tutors, for the tutees, and for the stratistician. For the teachers, it was a service that aided in the mainstreaming of handicapped students in their classrooms; for the tutors, it was an opportunity for responsibility and growth; for the tutees, it was individualized, personalized instruction. For the stratistician, it was an additional opening for ongoing contact with the teachers, their programs, and the handicapped children in the school. Eventually, 80% of the teacher-identified, handicapped students had individual programming.

III. Selection: Three types of selections were made:

A. Originally, fifth and sixth grade teachers had the objectives of the tutorial program explained to them. The teachers were asked to select ten to twenty possible tutors on the following teacher defined criteria:

   1. Shows responsibility
   2. Has skills in math, reading or a special area.
   3. Shows kindness and willingness to share.

B. After the first group was placed in classrooms, the students in the intermediate grades reacted to the group of tutors as privileged. Many requests were made to teachers and the stratistician for the same privilege. Students who were not as capable or who were not generally cooperative or who had low self-esteem requested the same opportunity. The teacher and the stratistician regarded these requests from less successful students as a possible indication of willingness to try to perform. Contingency contracts were drawn up with twelve students who were considered by the teachers as needing the most help. Each contract was individualized according to the student's performance. The teacher and student outlined expectations of changes in the "student's" accomplishments. Contingent on these accomplishments were in-service and placement for tutoring.

C. A third group of tutors was established for other children who were less successful than the first group and who had not made contracts as had the second group. They were students who had worked hard and made academic or social adjustments, using their own initiative, to demonstrate they could succeed as tutors. For each of the three groups, the stratistician screened the selected child by observing him in the classroom, and by having a personal interview. All teacher nominations were accepted.

IV. Commitment:

An orientation was held, and a letter explaining the tutor role was given to each tutor (Exhibit B.1). During orientation, a contract of responsibility was given to each tutor (Exhibit B.2). Each tutor also read every clause with the stratistician, and then signed a contract. It was understood that the responsibilities defined had to be assumed and persist for the student to remain a tutor. Parents also had to sign the contract allowing their child to be out of class for no more than five hours per week. The third signature, the stratistician's, was added following the tutor's successful completion of the initial in-service training.

V. In-Service

Those who returned the contracts were scheduled for in-service training. Five students decided they either could not accept or sustain the contract. The initial in-service was a general overview of skills, taught in five sessions of fifty minutes each.

The first session was used to make a role description for the tutor. The stratistician role-played different teacher personalities and demonstrated class-control techniques. Roles demonstrated included bossy, threatening, illogical, harsh, unclear, humiliating, baiting and patronizing behaviors. Tutors expressed their reactions to the roles; they then explained how they would respond in the classroom. An invitation was made for anyone in the group to demonstrate or explain a "technique" which would encourage their performance.

In all three groups there was participation. The second and third groups were most spontaneous. The tutors made energetic promises to be positive teachers. Resolution of this activity was a group-written description of the tutor role. Descriptions were similar.

The second group's read: "A tutor is a teacher. The tutor is a friend that will make him a special teacher. The tutor's job is to help, not boss, and be kind."

Following the first session, two assignments were made. Each tutor was given a reading-task and math-task worksheet to think through and answer by himself, or with help if necessary (Exhibit B.3), This assignment was to generate ideas or questions, and to begin the "tutor profile." The second assignment was to be completed for the last session. Each tutor was to develop a game or teaching device to teach one skill that was demonstrated.

The second and third sessions were used for the teaching of reading. The second-session activities were based on the thinking assignment question (Exhibit B.3): How do you teach the word "sitting" in the phrase, "Sam is sitting in the sand?" All the tutors had the opportunity to explain, discuss or demonstrate their ideas.

This was a productive session. Questions arose and were solved by the tutors. In all groups many original methods were contributed that were used throughout the year. The tutors revealed their own methods for learning. A list of clues and methods were compiled. To teach the word "sitting," for example, at least twenty ideas were given. Some ideas were conventional such as breaking the word into syllables, finding the small word "it," or blending sounds with the students. Other ideas were more creative, such as making the "s" into a long snake seated or drawing a chair over the word, or sitting in a chair saying and spelling or singing the word. Other phrases were treated in the same manner as the first. A phonetic checklist was distributed for reference (Exhibit B.4).

A question from a member of the first group precipitated a change in the content of the third session. The question was, "How do you get kids to know that the letter 'g' is 'g' and what side is right-side up?"

Letter recognition was difficult to explain in a one-sentence answer. It was to be, in fact, a primary focus for most of the tutors in working in the primary grades. First grade teachers aided in the preparation of the content. They delineated their expectations for tutors and tutees and contributed materials. Tutors divided into two groups; one group pretended not to know the letters and the other group served as tutors. Activities included games, word cards, Frostig-type worksheets and blackboard exercises. The "tutee" group worked hard at being difficult to teach and to handle. Ideas were shared following the activities; methods were added to their notebooks.

The fourth session was devoted to mathematics. The tutors, as a group, made a brief task breakdown of the math functions. Prerequisites were noted for the major function. Four problems from Question 2 of the thinking assignment were reviewed. Then the tutors were given twenty incorrect problems to analyze for mistakes in computations. Summary sheets of possible mistakes and the reasons for the mistakes were added to their notebooks (Exhibit B.5). Summary sheets, which started with only a few examples increased as new errors were encountered.

The fifth session was a double-time slot for sharing. The stratistician familiarized the tutors with the reading programs and math programs used in the primary grades. Then tutor-developed projects were demonstrated to the group for ideas.

In-servicing was a continuous process. Monthly meetings, with all tutors divided into two groups, were used for positive reinforcement and sharing of new ideas. Also training was presented in areas such as reflective listening, behavior management, blending skills and log-recording methods.

Groups working in just one classroom or one grade also met at other times. Specific training was based on needs expressed by the classroom teacher, tutor, or based on observations by the stratistician. Tutors for kindergarten, for example, learned how to do visual motor training when it was discovered that fifteen children were unable to hold or draw with a crayon. Individual in-servicing was a third method for continuous learning. The stratistician or teacher made on-the-spot observations, modeled techniques or gave advice. The speech teacher also had sessions with selected tutors. The stratistician set asise one afternoon every week for the tutors to visit if they had questions, needed re-direction, or needed support.

VI. Placement and programming:

Following in-service, a profile of each tutor was made for placement. This was the profile form:

1. Personal
   - A. Name
   - B. Age
   - C. Grade
   - D. Sex

2. Preference for Tutee
   - A. Subject
   - B. Grade
   - C. Sex preference

3. Teacher's reason for recommendation

4. Stratistician's evaluation
   - A. Ability area
   - B. Passive-aggressive, scaled 5/4/3/2/1
   - C. Clear-unclear (at giving instruction), scaled 5/4/3/2/1
   - D. Creative, scaled 5/4/3/2/1

All the teachers in the school were informed of the program's direct purpose: to individualize and assist in programming for children with special needs. From their requests a needs profile was drawn:

- A. Subject
- B. Child
- C. Time and day

As the referrals were received, a match of tutor and teacher profiles was made by the stratistician. Placements were based on this match. The tutor was given a permission form listing subject, time and dav, and to be signed by his teacher (Exhibit B.6). If the time slots were approved, the

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tutor went to the classroom teacher who made the request and established a time for programming. The approved permission slip was returned to the stratistician and recorded on a weekly time chart.

Programming for the tutee was originally done by the teacher. Variations of this procedure occurred throughout the year. The resource teacher, speech teacher, or stratistician wrote a program for the tutors in cooperation with the teacher, or alterations were made by the teacher after suggestions from the special services.

The tutor was to work with a child using a prewritten lesson and materials obtained by the teacher or tutor. Outcomes were to be reported regularly.

VII. Tracking:

Tutors were tracked by observation and by daily logs. Each tutor was observed at least one day a week while he was tutoring. These observations defined in-service needs for both the teacher and for the tutor. Notes were kept on the tutors' and tutees' progress.

The tutors kept logs each time they tutored. The date, the time of arrival and departure, total time spent and a description of the activity were recorded. Logs were difficult for most of the tutors at first. After an in-service meeting, logs improved. The stratistician made notes on them weekly. Dialogues were established between the stratistician and the tutors. The "Description" category soon developed into a record of success, failure or feeling. The log was the most effective method of monitoring all activity. It precluded misuse of time or possible teacher complaints of misuse of time. At the end of the year the logs were used in self-evaluation of progress.

VII. Evaluation:

Three formal evaluations of the tutorial program were made by the teachers. Several weeks after the first placement, the teachers were given an evaluation form (Exhibit B.7). At this time they commented on the tutors adjustment and cooperativeness. Each teacher had the option to continue or discontinue the program and submit a critique. All teachers felt it should continue and several more began to participate.

At mid-term the director had an interview with each teacher. Following the interview a report was written for report cards of the tutors.

Year-end evaluations were made bv the entire faculty (Exhibit B.8). Individual tutors as well as the program were evaluated. Results from the evaluations indicated that every teacher opted for tutors the next year. Also, the teachers could now list exact needs and personality types they felt could best work in their classrooms. The teachers stated a philosophy of acceptance for programming of handicapped children in the classroom.

Tutors made on-going evaluations in their logs. At the end of the year a final evaluation was completed (Exhibit B.9). The tutor evaluated his personal success, his view of the effect he had, and the program.

IX. Conclusion:

The tutorial program accomplished more than its goals. Forty-four tutors were placed in classrooms. Each tutor worked with one to ten children. Every class from kindergarten to the fourth grade, including the special education class, had a cross-peer tutor. Over 100 children were served directly. Advancement of some kind was reported for nearly every child. Two first grade readers joined an average reading group. Ten kindergarten students obtained better fine motor coordination. The second grade math students caught up with their group. A third grade teacher reported three of her students learned to read. Successes were numerous.

Of the beginning tutors, only thirty-two were still tutoring on the last day of school. Six had moved, two dropped out voluntarily and four were removed for not abiding by the contract agreement. The remaining thirty-two tutors had favorable reports from their teachers and parents. They became class leaders, were more organized, more responsible and had high class performance. Eight of the twelve tutors on contingency contracts had discontinued the contract and were operating by self-motivation.

A high school tutorial program was established based on the same format. The fourth, fifth and sixth grades made use of the older tutors. It too was reported as a success by the school and high school involved.

Primarily, the program won acceptance for the mainstreaming of handicapped students. Tutors had an important status in the school. The job was sought by other students. Each tutored student felt important to be served by his own tutor. Teachers felt they had been relieved and helped and were willing to open their class doors for more assistance. On "Special People Day," all the tutors were honored by the entire school. Twelve tutors received special awards for being the most significant contributors to the school that year.

Exhibit B.1

Letter to Tutors

October 3, 1972

Dear ______________________,

You have been selected as a "possible" student tutor. Who is a student tutor? Alta View's definition is a student who has strong academic (reading and math) and social skills and is willing to kindly share these skills unselfishly with other students.* Tutoring will be arranged during times of your day that you and your teacher agree upon and when other students need your help.

Why "possible"? You may decide this is not the kind of service you wish to give. You may want to wait as an alternate and give yourself more time. Your parents must also agree to your time being used this way. Or there may not be some other student who needs your time immediately.

Being a student tutor is difficult, a large responsibility and very rewarding.

To become a student tutor you must sign a contract. Under your name your parents must add their signature. And you must complete an assignment. It is designed to help me see how you will work and to help you think through the job you will be doing.

Your teachers and I are sure you will think carefully about this.

Sincerely,

*This sentence was altered for the second and third groups to read:...a student who is willing to teach and to share time unselfishly...

Exhibit B.2

Contract of Responsibility for a Student Tutor

It is understood that a student tutor:

1) Is willing to help other students with his work.
2) Will assist the student with materials the teacher gives him.
3) Will allow the student to find his own answers.
4) Is a friend as well as a tutor and therefore will not talk about those they help to others.
5) Will report every time he is scheduled to, if that time has been approved by the teacher: he may be excused for special events by the tutor director.
6) Will attend three classes of instruction.
7) Will report monthly to classes for tutors.
8) Will receive instruction and help before each new student and during tutoring.
9) Will ask for help if needed.
10) Will try to be understanding and kind.
11) Will keep up with his assignments in his class.

And it is therefore understood that the student tutor will try to live up to this agreement so that he may maintain his responsibility.

In return he will receive the satisfaction of being one of Alta View's most responsible and trustworthy students. And he will receive the reward of helping others.

I understand and agree to work
under this contract.

____

We (I) agree that my child may take on this
responsibility and be excused from class
for no more than five hours a week.

____

Exhibit B.3

Sample for Reading Task and Math Task Worksheets

This is a thinking assignment to be completed before our next session.

1. Johnny is a third grader who is having problems with his reading. The kids in his class call him "stupid." When he is working with you he first says, "I don't want to read." When you convince him to read he has this sentence to read: "Sam is sitting in the sand."

   He reads it this way: "Sam is (I don't know that word) in the sand."

   A) Is Johnny really "stupid"? What do you tell him?

   B) How did you convince him to read?

   C) How do you teach him to read the word sitting without telling him?

2. Betty is a fourth grader who needs your help for math. What did she do wrong in each problem?

A) 27	B) 30	C) 19
+14	-14	x 0
13	24	19

3. Now that you have answered these questions, do you think you would like to teach or tutor:
   A) reading
   B) math
   C) both
   D) neither

   And would you like to work with:
   A) a girl
   B) a boy

   And you would be most helpful in the:
   1st 2nd 3rd 4th 5th grade(s).

4. I know that I can help other students because I...

Exhibit B.4

Phonetic Checklist

SOUNDS

1. SOUNDS OF CONSONANTS

continuents:	plosives:
c, h, j, l, m, q, r, s, v, w, x, y, z	p, b, t, d, k, g

2. SOUNDS OF SHORT VOWELS (ă)
cap rid hop cut

3. SOUNDS OF LONG VOWELS (ā)

cape ride hope cute

4. SOUNDS OF DIPTHONGS (4)

oi oy ou ow (oil) (boy) (out) (cow)

5. SOUNDS OF VOWELS DIGRAPHS

aw ai ay ie oa oe ow ue ew ee ea au oo

6. SOUNDS OF CONSONANT DIGRAPHS

ph sh ch tch ck th wh nk ng on wr
(f) (sh)

7. CONSONANT BLENDS

ch tch nk st str ts tr pl bl qu (j-g-k)

8. PHONOGRAMS

ail ain all and ate ag con eep ell en ent er est

ick ight ill in ing ock ter tion

PRINCIPLES

1. Vowels are short--except when modified by position.
2. Final "e" lengthens the preceding vowel.
3. In vowel digraphs: first vowel long, second is silent.
   (heap slay tie sheep own how)
4. Vowels followed by "r" have sounds modified, making the "murmur" dipthongs (clerk corn care dirt curl)
5. Sound of "c" is soft (s) before e, i, y.
   Sound of "c" is hard (k) before a, o, u.

Exhibit B.4 continued

6. Sound of "g" is soft (j) before e, i, y.
   Sound of "g" is hard (g) before a, o, u and words ending with "ge."
7. In open accented syllables the vowel is usually long

   na - tion/ di - ner/ no - ta - tion
8. Silent letters

   k(knife) w(write) l(talk) t(catch) g(gnat)

   c(black) h(hour)

EXTRA SOUNDS

1. Sounds of "y."
   - a. first — yet, yard
   - b. short i — gym
   - c. long i — my, cry
2. Sounds of "s."
   - a. "S" before e, i, y (at end of word) sounds like "z" (fuse, desire, easy).
   - b. Other times it sounds with a hiss.
3. Sounds of "sh."
   - a. ci — special
   - b. ti — action
   - c. si — pension

SYLLABIZATION

1. When two consonants between two vowels divide between them.

   win-dow/ prin-ci-pal/ com-mon/
2. When only one consonant between two vowels divide before it.

   tī-ger/ sō-lo/ spī-der/ (open vowel is long.)
3. Most words ending in "le" put preceding consonant with "le."

   sim-ple tur-tle
4. "ed" ending is separate syllable in root words ending "d" or "t."

   test-ed bond-ed
   ("ed" endings are not separate on most other words: walked raked.)
5. Adding suffix usually doesn't change the division of the root word: im-prov-ing.
6. Some letter groups are not separated:
   - a. dipthongs: boiling coward
   - b. blends: between thoughtful embrace

Exhibit B.5 Summary Math Sheet

ADDITION PROCESS ANALYSIS

2 +1	2 +1 1 subtracted	2 +1 7 no one-to-one relationship.	2 +1 4. memory	2 +1 1 spatial confusion
3 2 +4	3 2 +4 5 added first two in series	3 2 4 6 added last two in series	3 2 4 10 memory or factual error	3 2 4 324 spatial confusion
12 3 +14	12 3 14 9 added only one column	12 3 14 119 confusion of tens	12 3 14 182 confusion of place value	12 3 14 13 memory or frustration
47 +85	47 +85 12 12 can not rename	47 +85 122 did not carry	47 +85 311 carried wrong number	47 +85 897 place value
22 +36	22 +36 16 mixed functions	22 +36 58 spatial		
178 +164	178 +164 232 no renaming		178 +164 242 renaming once	178 +164 2313 added left to right
$2.89 4.74 2.13	$ 2.89 4.74 1.23 8.86 error in copy--"perceptual?"		$289. 47.4 1.23 .886 decimal confusion	

Exhibit B.5 continued

SUBTRACTION PROCESS ANALYSIS				
8 -0		8 -0 0 zero confusion	8 -0 80 spatial confusion.	
6 -3	6 -3 9 added	-3 6 7 error in copy --perceptual?	6 -3 8 factual or memory error	
18 -4	18 -4 22 added	18 4- 38 inverse --small from large place value.	18 -4 4 tens not recognized.	18 -4 04 tens recognized and subtracted.
13 -5	13 -5 18 added	13 -5 12 inverse --small from large	$\cancel{1}\,{}^{1}3$ -5 8 unnecessary borrowing.	13 -5 7 memory error
24 -16	24 -16 10 mixed functions: added ones subtract tens	24 -16 12 no renaming	$\cancel{2}\,{}^{1}4$ -16 18 renaming without diminishing tens.	$\cancel{2}\,{}^{1}4$ -16 48 renaming increasing tens
40 -26	40 -26 20 zero confusion		$\overset{4}{\cancel{5}}0\,{}^{1}3$ -179 374 cannot bridge zeros	
6204 -530	$62\overset{11}{0}4$ -530 6574	6204 -530 6734	6204 -530 6334	
	did not rename twice.	zero confusion.	inverse small from large	

Exhibit B.5 continued

MULTIPLICATION PROCESS ANALYSIS				
2 x1	2 x1 3 added	2 x1 1 subtracted	2 x1 4 memory or factual error	
3 x0	3 x0 3 zero confusion	5 x2	5 x2 7 added	5 x2 52 spatial error
24 x2	24 x2 26 added	24 x2 28 multiplied only ones	$\overset{1}{\cancel{2}}4$ x2 12 mixed functions	
89 x3	89 x3 2427 no renaming	89 x3 893 spatial error	89 x3 247 no addition in renaming	89 x3 627 reversals of tens & hundreds.
607 x3	607 x3 1801 zero block	$60\overset{2}{7}$ x3 1861 double multiplication of carried number.	6007 x3 60012 copy error	
48 x20	48 x20 00 86 86 place value	48 x20 248 function error		
32 x12	repetition of ones' multiplier	32 x12 64 64 704	32 x12 64 32 394	error in addition
74 x67		74 x67 518 4444 44958	perservation of number	

Exhibit B.6

Tutor Permission Form

May______________________be excused to be a student tutor

in the______________________grade for_________________________

at______________________________on____________________________,

______________________________,______________________________.

Thank you

Mrs. Harrison

____

Teacher's Signature

Exhibit B.7

Form for Teacher Evaluation of Tutor

November 7, 1972

Dear ____________________________

Your tutor(s) have been working for a few weeks now with your students. Will you please make a few comments about each one. Reference could be made to a) their acceptance of responsibility, b) co-operativeness, c) creativity and d) if you would like to continue with their tutoring. Also, any helpful comments would be appreciated.

Thank you,

Susan Harrison

Exhibit B.8

Form for Year-end Evaluation by Teacher

If you have a tutor now, please answer the questionnaire.
If you do not have a tutor now, please answer Question 11.

1. Who were the tutors assigned to you?

2. Did they come regularly?

3. How much did they help your class?
   very helpful___ some help____ no help____

4. How did they tutor in your class?
   individuals____ small groups______ whole class_____

5. Did they help you to better understand the children and/ or the children to better understand you?

6. Do most students seem to welcome or resent the use of tutors?

7. In selecting tutors, what characteristics should be looked for?

8. Can you give an example how your tutor(s) helped one student?

9. Please give an example of how the tutor helped a small group or a whole class.

10. Do you have any criticisms or suggestions for the tutor program for next year?

11. Will you be interested in having a tutor next year?
    yes____ no____ when_________ for what__________

    any special person or kind of person__________________
    ____

    will you consider this again next year?_______________

Your name___________________________________

For those of you that have worked with these tutors, 5th, 6th or high school, thank you. Thank you! You've set an example, reached out and helped each of them to feel worthwhile.

Exhibit B.9

Form for Year-end Evaluation by Tutor

Name______________________Assignment_____________Your Grade____

1. What is the most important thing you did as a tutor?
2. How much do tutors help a class? very helpful______
some help___________ no help__________________
Comments:
3. How much tutoring time did you spend with: individuals______
small groups_______ whole class_________
4. Did you help the students and teacher understand each other
and get along better together? ____________How?
5. Do most students seem to welcome or resent the use of tutors?
6. Do you feel you worked better with students who were:
younger_________your own age_________ older____________
7. In selecting tutors, what characteristics (kind of person)
should be looked for?
8. Who should evaluate the tutors work?
9. How should the tutors'work be evaluated?
10. Should tutors meet now and then?______If so, how often?________
11. How much did the beginning classes help you?
12. Has your work as a tutor been helpful to you?
very helpful_____ some help________ no help_______
13. Will you be a better student_________ a much better student____
or no better student________.
Explain:
14. Give an example how you helped one student. (If possible a
case study.)
15. Give an example how you helped a small group or a whole class.
16. Do you have any criticisms or suggestions for next year?____
If so, please take time to express them all.
17. Will you be interested in tutoring next year?_________
Where__________ What______________ Who___________________

Appendix C

Program Analysis Questionnaire

Section 1

PROGRAM ANALYSIS QUESTIONNAIRE

RMRRC YEAR-END CONSULTATION WORKSHOP, JUNE, 1974

__Directions__: Questions in the following section are for the purpose of revising and analyzing the training program workshop presented by the RMRRC in August of 1973. Please answer all items according to __your personal feelings__ as accurately as possible. Where approximate frequencies or times are requested, give your best estimate from memory. This is NOT a personal evaluation of the Strat/Generalist, the Intermediate Strat., the school or the district.

S/G: fill out on self

I/S: fill out one on each of your S/Gs separately

DA: answer only Question 2

1. Please complete the first column in the following matrix by placing an (X) in the appropriate block. You are to estimate your skill level (knowledge, comprehension, application, analysis, synthesis, evaluation) for each of the five content areas (identification, diagnosis, prescription, programming, evaluation). There should be one (X) in each column when you are finished. An X at any level assumes skill at lower levels. An X at analysis, for example, would assume skill at knowledge, comprehension and application levels. If there is an area you do not have knowledge of, mark it NA.

Greater skill level assumed ↓

	Service Sequence →									
	Your Skill Level	Skill Level Needed	Your Skill Level	Skill Level Needed	Your Skill Level	Skill Level Needed	Your Skill Level	Skill Level Needed	Your Skill Level	Skill Level Needed
	Identification		Diagnosis		Prescription		Programming		Evaluation	
Knowledge										
Comprehension (understanding of content)										
Application (make use of content)										
Analysis (interpret information)										
Synthesis (Gestalt information)										
Evaluation (make judgment about information)										

2. Please return to the preceding matrix, and place a number rating in the second section of EACH block according to how important you felt the skill content and process represented in that block to be to your functioning as a Generalist in the school this year.

Rating Scale:
0 - Not important
1 - Slightly important
2 - Moderately important
3 - Very important
4 - Essential

3. Using the following Interpersonal Skills matrix, place a number in the 1st column of each block representing your skill level in these areas.

0 - No proficiency
1 - Slightly proficient
2 - Moderately proficient
3 - Proficient
4 - Very proficient

Interpersonal Skills

	Reflective Listening		Congruent Sending		Problem Solving		Acceptance in School	
	Your Skill Level	Skill Usefulness	Your Skill Level	Skill Usefulness	Your Skill Level	Skill Usefulness	Your Skill Level	Skill Usefulness
Teachers								
Administrators								
Students								
Parents								
Others								

4. Using the same Interpersonal Skills matrix place a number in the 2nd column of each block representing the usefulness of these skills.

0 - Not useful
1 - Slightly useful
2 - Moderately useful
3 - Very useful
4 - Essential

Movement through the content areas from Identification through Evaluation might be conceived as following a service sequence.

5. Evaluate usefulness of the service sequence of Identification, Diagnosis, Prescription, Programming, Evaluation as defined by the RMRRC training program.

-3 Very much a problem
-2 Moderately a problem
-1 Somewhat of a problem
+1 Somewhat useful
+2 Moderately useful
+3 Very useful

6. Approximate the % of referrals with which you used this service sequence.

____

7. If you used this service sequence (I,D,P,P,E), give at least three examples on the accompanying pages of children with whom you used it. Give the identified problem, method of diagnosis, prescription, program outline or referral, and method of evaluation briefly for each example.

8. If you did not find this sequence (I,D,P,P,E) useful, give example(s) on the accompanying pages of other service structures or sequences you did use.

9. Please rank from 1 to 5 the items of the service sequence (I,D,P,P,E). Rank as 1 the item you used the most; 5 the item you used the least. Place numbers in the 1st column of blanks.

	Question 9	Question 10
a. Identification	________	________
b. Diagnosis	________	________
c. Prescription	________	________
d. Programming	________	________
e. Evaluation	________	________

10. Regardless of how often you used the item, now rank the scale items from 1 to 5 putting a 1 next to the service item that you personally find the easiest to perform, and a 5 next to the service you personally find the hardest, most difficult to perform. Place answers for this question in the second column of blanks.

11. Of the handicapped children you served, what % fell into the following categories: MR_____ BD/ED_____ LD_____ Hearing Impaired_____ Blind_____ Physically Handicapped_____

12. Within the structure of the training program, were you able to meet your own individual training needs. Circle the appropriate response.

0 - not at all
1 - somewhat, but not to my satisfaction
2 - moderately satisfactory
3 - very much, much to my satisfaction
4 - always, completely to my satisfaction

13. Were you allowed sufficient time to complete training modules and achieve an appropriate level of proficiency. Circle the appropriate response.

0 - not at all
1 - somewhat, but not to my satisfaction
2 - moderately satisfactory
3 - very much, much to my satisfaction
4 - always, completely to my satisfaction

14. Did you feel the overall time scheduling was an efficient use of your time, rather than being wasted in non-applicable or non-useful activities? Circle the appropriate response.

0 - not at all
1 - somewhat, but not to my satisfaction
2 - moderately satisfactory
3 - very much, much to my satisfaction
4 - always, completely to my satisfaction

15. Would you have preferred an alternative to the training program presented in August, 1973? If so, describe the alternative on the back of this page.

Yes__________ No__________

16. What omissions did you see in the August, 1973 training program? That is, what information, materials, skills, etc. would you have liked to receive which you did not receive? List and describe on the back of this page.

Section 2

PROGRAM ANALYSIS QUESTIONNAIRE

Directions: Questions in this section of the program analysis are for the purpose of defining the roles of the Intermediate Stratistician, RMRRC and other personnel as resources. Please answer all items according to your best estimate of how time was spent in your particular situation. This is NOT a personal evaluation, but an attempt to generalize a definition of roles across individual school situations and personnel.

Generalists and Intermediates: fill out all questions referring to the utilization of resources in your school or district.

District Administrators: answer only questions #29 - # 36.

17. How often did the Intermediate Stratistician (I/S) listen to, ask for, or respond to needs that the Generalist (S/G) had?

0 - not at all
1 - occasionally
2 - regularly
3 - frequently
4 - always

Rank for each item:

listen to________
ask for__________
respond to_______

18. How often did the S/G make direct service or support requests of the I/S? Circle appropriate response.

0 - not at all
1 - occasionally
2 - regularly
3 - frequently
4 - always

19. How often did the I/S make a direct response of service? Circle appropriate response.

0 - not at all
1 - occasionally
2 - regularly
3 - frequently
4 - always

20. How applicable, useful were the service or suggestions provided by the I/S? Circle appropriate response.

0 - not at all
1 - only slightly
2 - moderately
3 - frequently
4 - always

21. How supportive was the I/S to the functioning of the S/G in the school-based role? Circle appropriate response.

0 - not at all
1 - only slightly
2 - moderately
3 - frequently
4 - always

How? List and describe examples.

22. How often did I/S volunteer service or suggestions that had not been directly requested by anyone? Circle appropriate response.

0 - not at all
1 - only slightly
2 - moderately
3 - frequently
4 - always

On these occasions was the service/suggestions: % useful_________

% not useful________

23. How often did the I/S ask for direct feedback from S/G regarding the I/S's functioning as a resource? Circle appropriate response.

0 - not at all
1 - occasionally
2 - regularly
3 - frequently
4 - always

24. How available was the I/S when the S/G needed assistance? Circle appropriate response.

0 - not available
1 - occasionally available
2 - regularly available
3 - frequently available
4 - always available

25. How often did the I/S assist in administration/management duties not directly connected with service to handicapped children, but improving operation of S/G in general?

0 - not at all
1 - occasionally
2 - regularly
3 - frequently
4 - always

Rate each of the following:

a. efficient use of time________
b. objective writing____________
c. decision making______________
d. record keeping_______________

26. How often did the I/S refer to the service sequence model, as presented and defined in the August 1973 training program (Identification, Diagnosis, Prescription, Programming, Evaluation)? Circle appropriate response.

0 - not at all
1 - occasionally
2 - regularly
3 - frequently
4 - always

27. How often did I/S assist the S/G to adapt the training program service sequence to the school's service pattern. Circle appropriate response.

0 - not at all
1 - occasionally
2 - regularly
3 - frequently
4 - always

Give an example.

28. The following list of activities represents only a few of the services which could have been requested or provided to the S/G by the I/S in each of the activities. Add any activities which were engaged in, but not listed, and rate % of time for those.

a. Consultation regarding a specific teacher with S/G ______
b. Consultation regarding a specific child with S/G ______
with Teacher ______
c. Modeling new techniques to S/G ______
to teacher ______
d. Mutual problem-solving with S/G ______
with teacher ______
with administrator (principal) ______
with a group ______
e. Mutual decision-making with S/G ______
with teacher ______
with administrator ______
with group ______
f. Demonstrate how to maximize creative use of limited materials with S/G ______
with teacher ______
g. Assist in test battery development for specific problems ______
h. Assist in special project development ______
i. Other activities ______

29. What other personnel, agencies, institutions, etc. were utilized as resources?

a. List examples:

b. What type of service did they provide? List examples:

c. Approximate number of times per month other resources than I/S were utilized.

d. Who initiated contact with these other resources?

30. Because of location and availability of services, there should be different patterns of utilization of resources in different schools and districts. Please fill out the following chart in terms of the pattern of utilization of resources in your school(s) this year, showing if and how the pattern changed from the beginning to end of the year.

To fill out the chart, estimate in each block the relative use made by your school (district) of the RMRRC I/S as a resource contact compared to other available contacts in the school, district, region, etc. Estimate the average number of hours per week utilization of each service

Beginning of School Year		Mid-School Year		End of School Year	
I/S	Other Resources	I/S	Other Resources	I/S	Other Resources

31. Will you continue to operate a S/G program in your school next year?

Yes________ No________

32. If yes, what problems, if any, do you see operating the S/G role next year without the RMRRC I/S?

Please list.

33. Where do you see sources of assistance and support resources for the S/G in the school next year? Check if available:

a. School staff-teachers_______

b. School staff-principal_______

c. District personnel_______

d. Other community agencies________ What?

e. Universities_______

f. State Dept. personnel______

g. State Dept. programs_______

h. Other special education personnel_______ What?

33. (cont.)

Which resources did you (or the S/G) utilize this year? Mark with an (O) if utilized in your school(s).

a. School staff-teachers_______

b. School staff-principal________

c. District personnel________

d. Other community agencies_________ What?

e. Universities_________

f. State Dept. personnel________

g. State Dept. programs________

h. Other special education personnel________ What?

34. Will you (or the S/G) be able to function in the role of stratistician next year without the RMRRC-based I/S? Circle one:

with the above resources yes no

without the above resource yes no

35. What have been the most important contributions to your (or your S/G's) functioning by the RMRRC this year. Check:

Training program________

I/S assistance________

Inservice meetings with other Generalists__________

Inservice workshops__________

Other___________

36. Has the S/G service allowed you to return handicapped children to regular education from a self-contained classroom?

Yes______ No_________

If so, approximately how many?_______________

37. Do you view yourself (your S/G) as an addition to other special education services or as a replacement to previously existing services.

Addition__________

Replacement_________

If replacement, what role or service delivery person would the S/G replace?

Resource Room Teacher_____

Self-contained Teacher______

Other (specify)_______________

Section 3

PROGRAM ANALYSIS QUESTIONNAIRE

Directions: Questions in this section deal with the definitions and analysis of the school-based roles of the Generalist and the District Administrators. Please answer all questions according to your own personal judgement of how the role operated in your particular situation. Again, this is NOT a personal evaluation, but an attempt to clarify and generalize functions across individual school situations and personnel.

Generalists, Intermediate Stratisticians, and District Administrators fill out all questions.

Use the numbers from the following rating scales to answer questions 38 and 39.

0 - not at all
1 - only slightly
2 - moderately
3 - very much
4 - always

38. Rate the amount of time spent per month (on the average) by the S/G in your school in the following activities: (list continues on 2nd page)

a. contracting with teachers (i.e., making mutual agreements as to who will do what in serving a handicapped child) ______

b. demonstrating new methods, techniques of identification, diagnosis, prescription, programming, evaluation ______

c. demonstrating creative use of limited materials ______

d. discussing, referring to new techniques of identification, diagnosis, prescription, programming, evaluation ______

e. assisting in test battery development ______

f. providing information on areas of exceptionality ______

g. consultation with teacher regarding a specific child ______

h. mutual problem solving with teacher ______
with administrator ______
with group ______
with child ______

i. mutual decision-making with teacher ______
with administrator ______
with group ______
with child ______

j. modeling or teaching process of identification, diagnosis, prescription, programming, and evaluation ______

k. classroom observation ______

l. referral of students for testing, diagnosis, evaluation ______

m. referral of students for services ______

n. coordination of programming among a number of other resources ______

o. mediating personal conflicts between staff members ______

p. mediating personal conflicts between teacher/child ______

39. a. What do you see as necessary to maximize efficient use of resources in your school or district?

b. Who do you see as responsible for coordinating these resources?

40. In mediating conflicts, the S/G may engage in the following activities. Rate the importance of skill in dealing with the following activities for the S/G.

a. listening to complaints ______

b. listening to intra-staff gossip ______

c. listening to specific problems ______

d. giving feedback on behavior to a teacher ______

e. giving feedback on behavior to a child ______

f. mutual problem solving techniques ______

g. receiving feedback on own behavior ______

0	1	2	3	4
not important	slightly important	moderately important	very important	essential

41. Please estimate as accurately as possible from memory the following figures:

a. number of handicapped children served directly by S/G _____

b. number of handicapped children served indirectly by S/G _____
Location of children served indirectly. Give percent for:

Self-contained class _____
Resource Rm other than that of S/G _____
Regular classroom _____

c. number of teachers served directly by S/G _____

d. number of teachers served indirectly by S/G _____

42. Rate how often each of the following center activities interferred with the S/G functioning in the school:

a. meeting with I/S _____

b. meeting with the total group at RMRRC _____

c. data collection procedures or problems _____

d. requests for presentations _____

e. requests for workshops _____

0	1	2	3	4
not at all	slightly	moderately	frequently	always

43. Rate to whom did you feel the S/G to be accountable?

a. RMRRC _____

b. I/S _____

c. Principal _____

d. District _____

e. Other _____ Who?

0	1	2	3	4
not at all	slightly	moderately	frequently	always

44. In introducing and supervising the S/G program in the school (or district), what methods were utilized by the District Administrators (Principals included)? Rate the following possibilities using the 0 - 4 scale.

a. discussion of the S/G role by principal or administrator:

in faculty meetings ______

in district meetings ______

b. presentation of accomplishments of the S/G:

in faculty meetings ______

in districts meetings ______

c. discussion of changes wrought by the S/G:

in faculty meetings ______

in district meetings ______

d. suggestions for cooperation with the S/G program:

in faculty ______

in district ______

e. participating in staffing or group decision about programming for a particular handicapped child ______

f. providing information to the S/G on district, school resources ______

g. providing information to the S/G on district, school constraints ______

h. obtaining tools, funds, services through district contacts ______

i. giving feedback to S/G ______

to I/S ______

to RMRRC ______

0	1	2	3	4
not at all	occassionally	regularly	frequently	very frequently

Note: I/S & S/G do not need to answer questions from here on.

45. How many S/G were operating in your school(s) this yea[illegible]

in your district?

46. What other resources for education of handicapped children other than S/G were available? Please list.

47. Where is your school(s) geographically located? Check: rural ______
urban ______
suburban ______

48. How was the S/G in your school (district) selected for his/her job?

How was the S/G in your school (district) selected for inclusion in the RMRRC training program?

49. What would you see to be the ideal selection criteria for a S/G?

50. What constraints operate in achieving that ideal?

Appendix D

Preliminary Interview for Generalist Training Program

The Rocky Mountain Regional Resource Center (Project Assistance Grant No. 542930, BEH) in cooperation with the University of Utah, Department of Special Education is adopting a personnel model designed to maximize the effectiveness of enhancing classroom teacher skills and provide remedial services to handicapped children. The training program provided by RMRRC is designed to prepare the generalist as the agent to best develop and expand these functions.

The following questionnaire is designed to better our familiarity with your interests and experience in special education. This information shall be most beneficial in allowing us to individualize our instructional designs in the generalist training program so that this program shall be profitable as well as convenient for participants.

Please answer briefly but informatively the included questions, and consider your given responses to be confidential.

Personal Background

Name____________________________________Age______Sex F M

District________________________ School____________________

University graduated ______________________Year____________

Major _______________________Minor_________________________

Degree/Certification____

Other education (include inservice)_________________________

____

Past teaching experience:

Past related experience:

Contributions to Special Education: (publications, projects, etc.)

Professional Organizations:________________________________

____

Area of Special Education interest:

Pre-assessment questions:

Learning Module 1: Identification

The list below contains fourteen characteristics of exceptional children. To some extent each area of exceptionality overlaps other groups. Place the number of each characteristic under the area of exceptionality with which it is most commonly associated.

1. learning rate 1/2 to 3/4 rate of average student
2. a large discrepancy between expected performance and actual performance
3. wide range of academic ability in inverse relationship to the range of sensory loss
4. awkward hand-eye coordination
5. monotonic speech quality
6. overly aggressive or overly withdrawn
7. process discrepancy
8. intellectual impairment
9. psycho-maladjustment
10. no deviation in developmental growth patterns
11. strong forcible expressions
12. inappropriate reactions to life situations
13. perceptual dysfunctions
14. inattentive to visual objects and tasks

Auditorily Handicapped	Partially Sighted	Learning Disabled	Educable Mentally Retarded	Emotionally Disturbed

Pre-assessment question:

Learning Module 2: Learning Theories

How and why learning takes place is formulated in a multitude of learning theories. There are three major classes of learning theories: ____________________________________(type) theory deals with organismic variables in life space,_________________ (Name) believes that learning takes place in developmental stages; and the most well known theory, the ___________________(type) is based on a single stimulus paired with a single response.

Pre-assessment question:

Learning Module 3: Task Analysis

A fifth grader can give change for a five dollar bill. He decides which syllable is accented in a three syllable word.

Describe three sub-tasks that are necessary to be competent in each skill.

Pre-assessment question:

Learning Module 4: Process Analysis

What perceptual channels or processes are needed for each of the following activities.

a) writing your name

b) finding similarities of sounds

c) describing an accident

d) discriminating (b) from (d)

e) repeating a word in French

Pre-assessment question:

Learning Module 5: Identification of Interactional Patterns

1. What are the 3 essential personal attributes (not skills) to have for a person in a "helping role" to be effective?

2. What are at least 4 conversational symptoms of dysfunctional disagreements?

3. Define a double message. Give an example of a double message.

4. What 3 conditions must be present for the persons associated with a double-bind to lead to deviant behavior.

5. Give 5 ways of communicating other than by verbal context.

6. Name at least 2 things a child must have to develop self-esteem.

7. What is the main personal factors leading to dysfunctional interaction.

8. It is impossible for a person to avoid defining, or taking control of the definition of his relationship with another.

true______ false______

9. Control in a relationship operates two ways. Name the two ways.

10. Which of the two ways is the most stable?

Which way allows most self-esteem?

11. All conflicts in a relationship can be characterized as a

____

(Fill in the blanks. More than one word.)

12. All dysfunctional behavioral or psychiatric symptoms are in some degree ______________. (Fill in the blank. One word.)

13. Communication or interaction theory is in conflict with behavior modification theory and techniques.

true______ false______

14. What are the 4 stages of group process which must be allowed if a group is to function effectively?

15. Which of the following body positions signify relaxation as opposed to tenseness, excitement, involvement?

a. leaning forward
b. shifting position
c. symmetry
d. asymmetry

16. What is the best single tool the individual has at his disposal in any therapeutic interpersonal interaction?

Pre-assessment question:

Learning Module 6: Synthesis of Identification Factors

Frank is a third grader. The teacher reports that he is like a first grader. After a task analysis it appeared that he didn't understand concepts such as big, bigger, biggest or that (f) and (l) could be blended to make one sound. Also, no one could make him "get to work." What type of diagnostic instrument would you select to find more information? Why?

Pre-assessment question:

Learning Module 7: Demographic Variables

The following categorization provides areas for consideration in defining a child's background and demographic variables. In each case two examples are given for the main category. List two more appropriate suggestions as defining variables for each category.

I. Physical

A. Birth history
B. Development
    (1) walking
    (2) talking
C. ____________________
D. ____________________

II. Educational

A. Grades skipped or repeated.
B. Change of school
C. ____________________
D. ____________________

II. Social-Environmental

A. Child's maturity
    (1) sense of responsibility
    (2) play habits and interests
    (3) relationships with other children
B. Foreign language
C. ____
    ____
D. ____
    ____

Pre-assessment question:

Learning Module 8; Part A: Nature of Intelligence

(1) Check below the names of those individuals who are familiar to you as being closely associated with the study of human intelligence.

_____Guilford

_____Thurstone

_____Valeski

_____Binet

_____Kephart

_____Hebb

_____Eypenals

_____Bender

_____Wechsler

_____Cattell

_____Chronkovich

_____Simon

(2) Select from the list below statements you think would be found within a course outline for a class studying the Nature of Human Intelligence.

_____ Figure-ground perception

_____ Spache Diagnostic Scales

_____ Ability, personality and achievement

_____ Eye-hand coordination

_____ The influence of heredity

_____ The Dubnoff School Program

_____ Problem solving and concept attainment

_____ Qualitative interpretation of vocabulary responses

_____ Consideration of the "G" factor

_____ Study of spatial relations

_____ Fluid and crystallized abilities

_____ Operational definitions: their purpose and use.

Learning Module 8; Part B: Measurement

Match statements from Column A to the most descriptive statements in Column B. (more than one match possible) (see next page)

Column A

1. California Test of Mental Maturity (CTMM)
2. Slosson Intelligence Test (SIT)
3. Illinois Test of Psycholinguistic Abilities (ITPA)
4. Stanford Diagnostic Arithmetic Test (SDAT)
5. Detroit Test of Learning Abilities (DTLA)
6. Gates McKillop Reading (GMR)
7. Metropolitan Achievement Test (MAT)

Column B

1. Contains items measuring a subject's ability to see visual absurdities.________________

2. Has a subtest requiring subject to match pictured objects on the basis of function or common association.________

3. Asks for similarities and differences between two objects.________________

4. Has items utilizing words as content for measuring auditory attention span.________________

5. Has items purporting to measure visual sequential memory.________________

6. Provides a measure of oral reading ability.________

7. Has a subtest measuring ability to recall the contents of a story.________________

8. Has items that, even though specific numbers change, maintain similar relations between numbers.________

9. Level I of this instrument does not require an extensive reading response from the subject.________

10. Tests child's knowledge of laterality with pictures of people.________________

11. General measure of level in academic subject areas.

    ____

Pre-assessment question:

Learning Module 9: Formal Test Batteries

Match the items in Column A with the best fitting statements in Column B. (more than one match is possible)

Column A

1. CTMM
2. SIT
3. ITPA
4. DTLA
5. MAT

Column B

1. Yields information in terms of mental age. ______________
2. Useful for children above age 10.______________________
3. Provides differential measures of process functioning.____
____
4. Provides a gross estimate of intelligence.______________
5. Requires testee to read the items. ____________________
6. Provides grade level scores. _________________________

Pre-assessment question:

Learning Module 10: Informal Test Batteries

A. An informal reading and/or math inventory yields diagnostic information: (check correct response)
   1. useful for comparing one child to several children
   2. indicating a child's level on a general sequence of skills
   3. not usually descriptive of "proficiency rates" of response.
   4. which must next be compared to tables of norms or standard scores.

B. Match the items in Column A with the best fitting statements in Column B. (more than one match possible for Column A/B items) (see next page)

Column A

1. _____ Slingerland Screening Test for Specific Language Disability
2. ______ Lincoln Otsereskey Test of Motor Development
3. ______ Pupil-teacher interaction observation scales
4. ______ Bryant Test of Decoding Skills
5. ______ Informal Diagnostic Reading Inventory
6.______ Student open-ended sentence completion
7. ______ Children's Manifest Anxiety Scale

Column B

a. Number of times a child refuses to complete his work.
b. Past health information relevant to child's educational history.
c. Apparent indications of the child's emotional discomfort
d. The child's knowledge of the alphabet
e. Assesses the child's ability to stand on one foot.
f. Predictive of expected difficulties in reading
g. Examine learning processes necessary in beginning reading
h. Yields an IQ measure of the child
i. Used in testing a large group of children

Pre-assessment question:

Learning Module 11, Part A: Interpretation of Formal Test Batteries

Match the statements in Column A with the appropriate question in Column B.

Column A

1. Test validity
2. Test reliability
3. Stanine

Column B

1. Produces approximately the same score on repeated measurement of the aptitude/achievement.
2. The test measures the aptitude/achievement it purports to measure.
3. Divides test scores into statistical groups.

Learning Module 11, Part B:

1. Mean is one description of a group of scores. It is defined as: (mark all correct responses)

    a. the average of a sum of scores

    b. the middle score in a distribution of scores

    c. the most frequent score in a group of scores

2. Standard deviation is one way scores vary around the average score. Standard deviation is used to describe: (mark all correct responses)

    a. the norming procedures for criterion referenced tests

    b. the scores on a test that will include approximately 2/3 of the group

    c. how much a score can vary from the average scores and still be normal

3. Standard scores: (mark all correct responses)

    a. are derived from raw scores

    b. have an average score of 5

    c. allow comparison of scores from many different tests

4. A norm referenced test is used when: (check one)

    a. we want to compare a subject's present performance to his past performance on criterion referenced tasks

    b. we want an index of how a subject's performance on a task compared to others' performances on the same task

    c. we are concerned with the test administration resulting in scaled scores

5. Raw scores can be used in computations to produce: (mark all correct responses)
   a. IQs
   b. standard deviations
   c. arithmetic means
   d. modes
   e. medians
   f. stanines

__Pre-assessment question__:

Learning module 12 : Interpretation of Informal Test Batteries

Of the following types of diagnostic test information, circle the types which informal reading and math inventories would typically yield:

1. grade level equivalent
2. mental-age score
3. scaled score measure
4. subtasks of word recognition
5. general achievement level
6. proficiency of response
7. level on a particular task
8. implication for learning process
9. general score of ability in arithmetic
10. specific weaknesses in general subject area

__Pre-assessment question__:

Learning module 13 : Interpretation of Pupil Observations

The following observation was made of Phillip, a 9 year old boy in the 4th Grade, over a five day period.

Teacher Response:	No. Times	Phillip's Response	No. Times
1. "Stop doing that!"	3	1. (continues talking)	3
2. "Go to the office."	4	2. goes to office	1
3. "If you finish the page, you may recess early."	4	3. finishes the page	3
4. "Why are you acting this **way**? Are you tired?	5	4. continues acting that way	4
5. "Phillip, we don't do that in this class.	4	5. continues doing that	3

It is predictable from the given information that, for a possibly effective control approach by the teacher: (mark all correct responses)

1. The teacher may control Phillip more consistently by punishing him for his misbehavior.
2. Better control results should be attained by attempting to probe Phillip and investigate what may be disturbing him.
3. Classroom rules and standards should be established so that Phillip clearly understands limits and guidelines.
4. Phillip will probably respond to positive consequence and social reinforcement techniques.
5. Phillip simply needs to be authoritatively managed and told "no" for his misbehaviors.

Pre-assessment question:

Learning module 14 : Formulation of a Diagnostic Statement

The following description provides diagnostic information from a standard diagnostic reading test. Results of the various subtests are reported in grade-level equivalent terms. Read the test data carefully and choose the most appropriate diagnostic statement among the given alternatives.

John, a seven and a half year old 2nd grader, attained the following end of the year subscores in reading.

SUBTEST	GRADE LEVEL
1. Word recognition	3.1
2. Sound blending	2.9
3. Comprehension	1.1
4. Oral vocabulary	.9
5. Letter sounds	2.2

Diagnostic statements:

1. John's scores indicate normal achievement in reading and he will not require individual skill practice.
2. The amount of difference in the subtest scores is an expected variability typical of early readers and does not require further attention.
3. John should receive additional practice in strengthening his letter sounds so that his abilities in other areas shall increase.
4. The possibility of a language deficit is apparent, and further diagnosis in this area is warranted by John's scores.
5. Further practice in building sight word recognition is the best remedial approach for John.

Pre-assessment question:

Learning module 15: Synthesize Diagnostic Conclusion

Utilize the following test data and referral information to make a diagnostic statement descriptive of both the process difficulty and a possible remedial-prescriptive approach.

I. Referral information:

Sex: male

Grade placement: 3rd grade regular education classroom

Teacher to student ratio: 1 to 28

Socio-economic status of home: Lower end of the middle income bracket.

Referral statements:

a. daydreaming

b. teasing other children by poking pencils, etc.

c. noisemaking with objects, i.e., banging books, tapping, etc.

d. frequently refuses to do social studies assignments

e. works well during art projects

f. likes gym period activities

g. poor reading comprehension (Gilmore Oral Test); slightly below average in word recognition.

II. Test Battery: CTMM, DTLA, WISC, ITPA

A. The following test data indicates subtest performances resulting in scores one or more standard deviations below the mean for each test.*

CTMM

opposites (visual stimuli)
similarities
analogies
inference
delayed recall

DTLA

pict. absurdities
verbal absurdities
verbal opposites
likenesses and differences
oral directions
free associations

WISC

information
similarities
vocabulary

ITPA

auditory reception
visual reception
auditory association
visual association

B. The following test data indicates those performances on subtests resulting in scores at or near the mean for each test.*

CTMM

- Right and left
- Manipulation of areas
- Immediate recall

DTLA

- Pictorial opposites
- Disarranged pictures
- Motor speed
- Designs
- Orientation
- Auditory attention for
- Unrelated words
- Auditory attention span for related syllables

WISC

- Comprehension
- Picture completion
- Picture arrangement
- Object assembly
- Coding
- Block design
- Digit span

ITPA

- Auditory closure
- Visual closure
- Auditory memory
- Visual memory
- Sound blending
- Grammatic closure
- Verbal expression
- Manual expression

*Note: Not all subtests given are listed

Pre-assessment question:

In answering the following questions refer to the diagnostic profile attached. Keep your answers brief.

Learning Module 16: Intergration of Task and Process Analysis

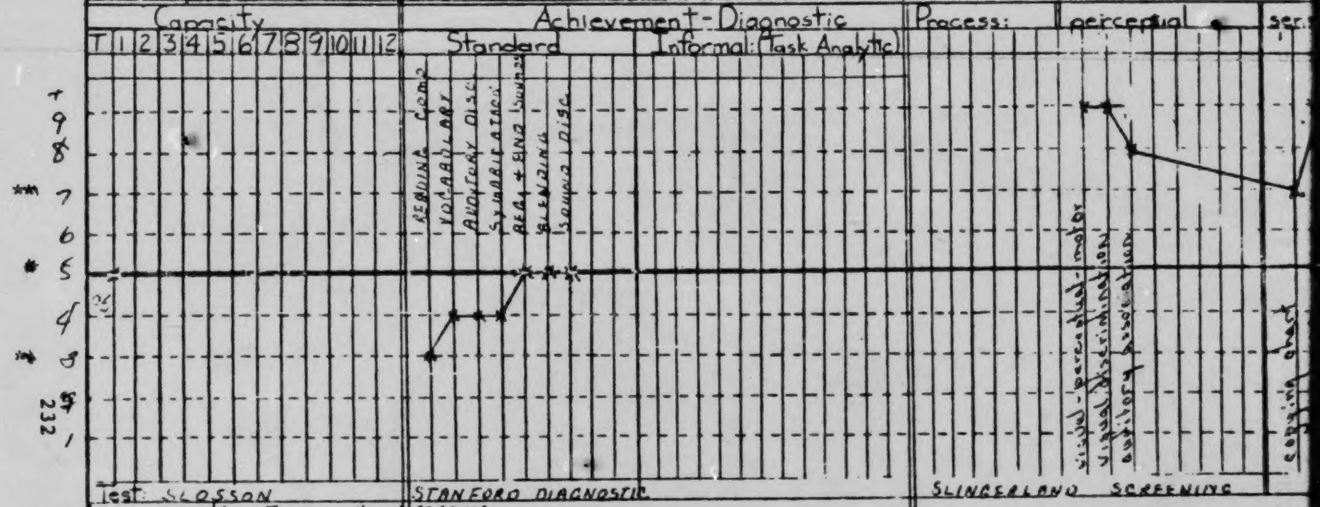
1. What strength and weaknesses does the diagnostic profile present that could be considered in writing a prescription? List the strengths and weaknesses and state the educational implications of each. Do not write a prescription.

Strengths	Weaknesses

* a score of 5 represents the average score

** a score of 3 or 7 represents 1 standard deviation above or below the average

Name: Chronological Age: 8 Sex: ☒M ☐F	School: Grade Level: 3 DOB:	Student Profile RMRRC	Evaluation Date: Staff:	Content:



Test: SLOSSON

Performance Observation: hesitant on visual motor tasks

STANFORD DIAGNOSTIC READING

SLINGERLAND SCREENING

Case Demography:	Physical Information:		Psycho-Social:
Culture: Caucasian middle class income level	General: medium height, weight; Good complexion	Speech: no apparent problems	Adjustment Descrip: seems ... especially during spelling ... tests. Generally ... no other behavior problems
Home: 2 siblings live ... parents employed, well kept home, father is an auto mechanic, mother is an Executive Secretary	Medical: no apparent problems	Vision: checks o.k.	Projective: Questionnaire: seems ... less than capable ... in school
		Hearing: checks o.k.	Behavior Observation: (StOB): off t... are most frequent during ... other writing activities ... problem to other children ...

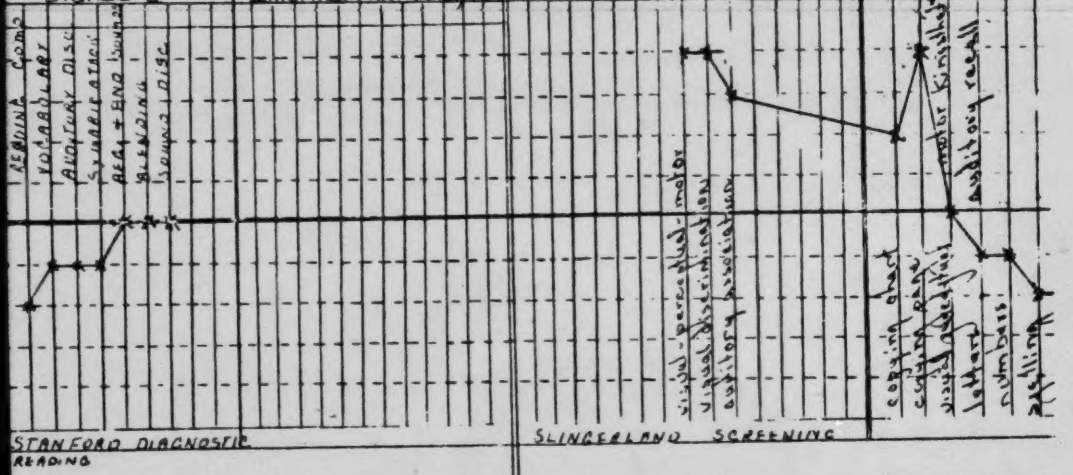
the average score

ents 1 standard deviation above or below the average

School: Grade Level: 3 DOB:	Student Profile RMRRC	Evaluation Date: Staff:	Content:

Achievement-Diagnostic | Process: | perceptual | sensory motor

Standard | Informal: (Task Analytic)



Physical Information:

General: medium height, weight: Good complexion

Medical: no apparent problems

Speech: no apparent problems

Vision: checks o.k.

Hearing: checks o.k.

Psycho-Social:

Adjustment Descrip: Seems restless - especially during spelling instruction and tests. Generally [illegible] during reading. No other behavior problems.

Projective: Questionnaire: Seems to feel he is less than capable - is worried about school.

Behavior Observation: (StOB): off T[illegible] categories are most frequent during spelling and other writing activities. [illegible] not a problem to other children.

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Learning Module 17: Student Learning Style

2. What statement(s) could you make about how the student learns best? (from the profile above)

Learning Module 18: Matching Appraisal and Remediation

3. What remedial approach would you recommend given the above profile?

4. Rewrite the following into an objective making it specific and measurable.

   Jan is an eight year old girl with inadequate auditory discrimination skills. She will be taught to discriminate short vowel sounds in daily oral sessions.

Learning Module 19: Instructional Materials

Instructional materials (games, commercial programs, etc.) can be gestalted into five main educational areas: 1) mathematics; 2) reading/language arts; 3) perceptual; 4) sensory-motor; and 5) psychosocial. For each area list from 4 to 8 materials which could be utilized when a student has difficulty within that particular area. For example, the Distar Math Program can be used to remediate math difficulties.

Learning Module 20: Use of Instructional Methods/Techniques

Instructional methods or techniques can be gestalted into five main educational areas: (1) mathematics; (2) reading/language arts; (3) perceptual; (4) sensory motor; and (5) psychosocial. For each area list from 2 to 5 methods or techniques, including individual or group activities based on each, which could be utilized when a student has difficulty within that particular area. For example, in the psychosocial area, letting a child earn points on number of math pages completed for extra recesses is an activity under the technique of reinforcement. Use extra sheets of paper as necessary.

Learning Module 21: Matching Instructional Methods with Remediation

Combine 1 to 3 materials, techniques and/or methods you would use in programming the child based on the prescriptive-remedial approach from question 18.

Learning Module 22 : Specification of Performance Criteria

Define performance criteria. Decide on the performance criteria for the two given examples.

Examples:

1. Given a spelling test with ten words, what would the performance criteria be?

2. Given an assignment of long division problems involving a 2 digit division and a 4 digit dividend, what would the performance criteria be and how would it change for a hyperactive child?

Learning Module #23 Matching Performance Adjustment to Performance Criteria

1. You have established as a performance criteria for Bill, a fifth grader, that he shall multiply a 3 digit number by a 2 digit number. Performance criteria include doing 10 problems in 30 minutes with an 80% accuracy. Bill finishes the task in 15 minutes with the following results:

$$\begin{array}{r} 236 \\ 13 \\ \hline 698 \\ 236 \\ \hline 3058 \end{array} \qquad \begin{array}{r} 433 \\ 24 \\ \hline 1622 \\ 866 \\ \hline 10,282 \end{array} \qquad \begin{array}{r} 192 \\ 46 \\ \hline 642 \\ 428 \\ \hline 4922 \end{array} \qquad \begin{array}{r} 352 \\ 11 \\ \hline 352 \\ 352 \\ \hline 3872 \end{array}$$

$$\begin{array}{r} 134 \\ 12 \\ \hline 268 \\ 134 \\ \hline 1608 \end{array} \qquad \begin{array}{r} 521 \\ 12 \\ \hline 1042 \\ 521 \\ \hline 6252 \end{array} \qquad \begin{array}{r} 139 \\ 36 \\ \hline 684 \\ 397 \\ \hline 4654 \end{array} \qquad \begin{array}{r} 432 \\ 15 \\ \hline 2050 \\ 432 \\ \hline 6370 \end{array}$$

$$\begin{array}{r} 691 \\ 37 \\ \hline 4527 \\ 1873 \\ \hline 23,257 \end{array} \qquad \begin{array}{r} 197 \\ 14 \\ \hline 465 \\ 197 \\ \hline 2435 \end{array}$$

Analyze the task results for arithmetic sub-tasks required for performance of this task.

Place these sub-tasks in a hierarchial sequence.

Learning Module #24: Determining Acceptable Performance Adjustment

1. Analyze Bill's (from Mod. 23) performance for:

   a. Source(s) of student difficulty

   b. What feedback would you give Bill on his performance?

   c. What suggestions would you make to Bill's teacher (mark responses)

      1. modify presentation

      2. reteach without modification

      3. introduce new task

   d. Mastery of the task, i.e., was the accuracy requirement met?

      Yes_____ No_____

Appendix E

Post Training Interview
for
Generalist Training Program

Post-assessment questions:

Learning Module #1 Identification

Write a practical definition including a minimum of five identification criteria for three areas of exceptionality.

Learning Module #2 Learning Theory

Name as many of the principles of learning as you can.

Learning Module #3 Task Analysis

1. What are the three "behaviors" described in a task analysis?

2. What does the number 35-3 mean in Criterion Reading?

3. What are the implications if a third grade child has an entry behavior in an arithmetic analysis of adding skill number 223 and the expected skill is number 231?

4. What do the Barsch Dimensions and the Gesell Scales measure?

Learning Module #4 Process Analysis

1. Name the response channels, levels and processes for these skills.

   a. Writing the alphabet

   b. Writing dictated words

   c. Repetition of a series of numbers

Learning Module #6 Synthesis of Screening

Decide a diagnostic direction for the following case study -

> John demonstrates difficulty in the acquisition of learning. He appears "different" to his teacher. Also, he's unmanageable for teachers and auxilliary personnel.
>
> What diagnosis needs to be administered for pertinent information?

Learning Module #7 Post Assessment Question Demographic Variables

In each given general category of demographic variables, match all of the appropriate sub-categories relevant to each classification. (Match items in column A to items in column B.)

I. Physical Psychological

______

______

______

______

II. Social-Environmental

______

______

______

______

III. Educational

______

______

______

______

IV. Attitude

______

______

______

______

1. socioeconomic status
2. past achievement
3. self-assertiveness
4. grades repeated
5. language development
6. family inter-relationships
7. birth history
8. interest in learning
9. attendance in preschool
10. memory
11. drive for accomplishment
12. range of experience
13. development in motor
14. acceptance of responsibility
15. rural to urban school
16. activities in the home

Learning Module 8 Post Assessment Measurement-Intelligence

Match statements from Column A to the most descriptive statements in Column B.

Column A

1. Illinois Test of Psycholinguistic Abilities (ITPA)

2. Thurstone

3. Metropolitan Achievement Test (MAT)

4. Stanford Diagnostic Arithmetic Test (SDAT)

5. J.P. Guilford

6. Slosson Intelligence Test (SIT)

7. Verbal - Performance Factors

8. "Total" Intelligence

Column B

____ Problem solving and concept attainment

____ "Fluid" and "crystallized" mental abilities

____ Correlated to Otis-Lennon Mental Abilities Test

____ Yields a task analysis in mathematics skills

____ Reports the general mental age of a child

____ Level of performance in basic subject areas

____ Describes information-processing abilities

____ Stanford-Binet Intelligence Test

____ Defines intelligence as separate language & perceptual entities

____ Wechsler Intelligence Scale for Children

____ Intelligence factored into 120 separate abilities

Learning Module #9 Post Assessment Question Standardized Testing Instruments

1. For what grade levels is the Intermediate Metropolitan Achievement Test appropriate?

2. What is the "basal age" described in the Slosson Intelligence Test?

3. In the Stanford Diagnostic Arithmetic Test, what is the difference between "number computation" and "number facts"?

4. What is the IQ of a child who is chronologically eight years old, with a mental age of 6-years old?

5. What may be two sources of difficulty with the child who, in the Stanford Diagnostic Reading Test, achieves acceptably with "beginning sounds", but deficiently in "ending sounds"?

Learning Module #10 Post Assessment Informal Test Batteries

A. An informal reading and/or math inventory yields diagnostic information useful for: (3 correct responses)

1. Knowledge of "enroute" skills of the prescribed task.

2. Generally assessing the child's mental age.

3. Graphing and showing relevance to other diagnostic data.

4. Teaching definite and refined skills.

(continued next page)

5. "Absolute" information based upon a criterion.

6. Comparing the child's ability to his grade level.

B. Give brief answers to the following questions:

1. The Bryant Test of Basic Decoding Skills uses "nonsense" linguistic items because:

2. The Boswell-John Test of "Individual Difficulties in Fundamental Processes in Arithmetic" in diagnostically based upon:

3. The Slingerland Language Screening Test for Children uses linguistic tasks for measuring:

4. Classify the response items in Column B to the given basic categories of the Systematic Observation of Behavior in Column A: (Only one correct match per category).

A: Categories

1. ______ Information (I)
2. ______ Control (C)
3. ______ Participation (P)
4. ______ Self Involved (SI)
5. ______ Response (R)
6. ______ Miscellaneous (M)

B. Response Items

a. "How am I doing on this math problem?"
b. "I'm not ready, wait a minute"
c. Child leaning back in his chair
d. Child is sleeping in his desk
e. "Today we are going to study China"
f. "OK, you can return to your seat now"

Learning Module #11 Post Assessment Question Measurement

1. When test results are compared by correlating the odd items of the test with even items in the same test, a measure of that test's [reliability / validity] is established.

2. A stanine is a statistical unit, which when derived from a given raw score, indicates the ______________________________
____ of that raw score.

3. The essential difference between "norm - referenced" and "criterion-referenced" diagnostic information is:

   1) the value of the diagnostic information

   2) "intra-individual" performances and "inter-individual" performances

   3) the comparison of a child's present performance to his past performance

   4) all of the above

4. A "standard deviation" reported in with a series of test scores is useful because it indicates:

5. "Standard" or "scaled" scores are different from raw scores in that:

Learning Module #12 Post Assessment Question Interpretation of Informal Test Batteries

1A Describe (2) errors observed of the following pupil in calculating the given addition problem:

$$\begin{array}{r} 8 \\ 7 \\ 9 \\ \underline{7} \\ 30 \end{array}$$

"14 and 9 are - (tapping):

15, 16, 17, 18, 19, 20, 21, 22, 23"

"23 and 7 are - (tapping):

24, 25, 26, 27, 28, 29, 30.

(Space to answer 1A)

B. The above diagnostic information may be used later for:

a) Indicating the child's general achievement level in arithmetic

or

b) Indicating the child's level of proficiency of response in addition.

2A In the administration of the Bryant Test of Decoding Skills, a child responds accordingly:

Stimulus:	Response:
1. bof	1. "daf"
2. cal	2. "lac"
3. peke	3. "keep"
4. nime	4. "mane"

2B The errors observed above may best be described according to which type of classification used in the instrument? (use best single possibility)

a) Apparent difficulty with ability to produce accurate sound associations

b) Apparent difficulty with perceptual organization

c) Apparent difficulty in the ability to blend or gestalt a word unit

d) Would really need more information to classify the nature of the errors.

3A If a child is administered the Slingerland Language Screening Test for children and his correct response total for each subtest is about 50-60%, what conclusion may be drawn regarding his performance? (mark all correct responses)

a) He is about average in development of language processing ability.

b) A perceptual deficit is a possibility, as the initial subtests are generally higher scores than the remaining, for an "average" child.

c) Knowledge of the performance of other children his approximate age and/or grade level would be needed to determine the significance of 50-60%.

d) Because the Slingerland Test is an informal instrument, a 50-60% rating indicates that he is only 50-60% accomplished in language ability.

e) None of the above

f) All of the above

Learning Module #13 Post Assessment Question Interpretation of Pupil Observations

The following behavior observation was recorded for John, a 9-year old boy in the 4th grade.

Monday:	(1) Teacher:	Instructing a lesson in reading
	(A) John:	Gives answer to her instructional question
	(2) Teacher:	Smiles and continues instruction
Tuesday:	(3) Teacher:	Further instruction in reading lesson
	(B) John:	"I need to sharpen my pencil first."
	(4) Teacher:	Ignores his statement
Wednesday	(5) Teacher:	Continued instruction in the reading lesson
	(C) John:	(Speaks out) "Hey, I don't get this!"
	(6) Teacher:	"Take another look and try it again, John."
Thursday	(7) Teacher:	Reading instruction
	(D) John:	Daydreaming
	(8) Teacher:	Talks louder
	(E) John:	Reaching in desk

Friday	(9) Teacher:	Reading instruction
	(F) John:	(talking to another student) "Go tell Johnny he's stupid."
	(10) Teacher:	"Go stand outside in the hall, right now!" (physically shuffles Johnny outside).

(1) Briefly describe the behavior pattern observed of the teacher over recordings (1) - (10)

(2) Briefly describe the behavior pattern observed of John over recordings (A) - (F)

3. Place in rank order number the following Systematic Observation of Behavior categories as they describe the progressive pattern of John.

______ Participation

______ Response

______ Self-Involved

______ Other-Involved

Learning Module #14 Post Assessment Question Formulation of a Diagnostic Statement

A diagnostic conclusion may be formulated from any single measure of a child, provided that conclusion does not extend beyond the diagnostic information supplied by the measure. List 4 general types of diagnostic conclusions which might be obtained from a Metropolitan Achievement Test for a 6th grade child, other than simply discussing outcome levels in each subtest area.

Learning Module #15 Post Assessment Question Synthesizing a Diagnostic Conclusion

The following RMRRC Student Profile provides diagnostic information from the Slosson Intelligence Test, the Metropolitan Achievement Test, the Stanford Diagnostic Reading Test, the informal Bryant Test of Decoding Skills, and the Illinois Test of Psycholinguistic Abilities. Not all test information is reported, however, the variables to be considered are designated on the profile.

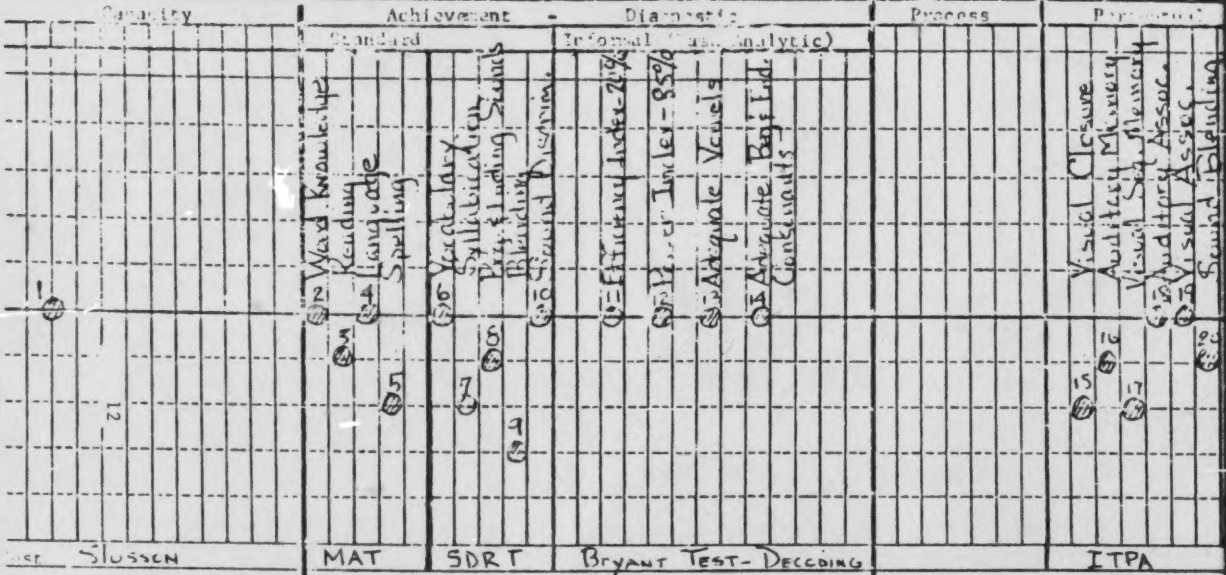
Each variable is numbered (1-20).

A. Starting at the right end of the diagnostic sheet draw a continuous solid line, connecting at least 8 variables, which may lead you to conclude an average intelligence rating as a function of visual-perceptual weakness.

B. Starting at the right end of the diagnostic sheet, draw a continuous dotted line, connecting at least 9 variables, which may lead you to conclude only an average "word knowledge" ability, as a function of an average auditory-perceptual ability.

ROCKY MOUNTAIN REGIONAL RESOURCE CENTER STUDENT PROFILE

Name	Mary	School	Dunbar Elementary	Evaluation Date:	8-12-73
CA	8-5	Grade level	3	Staff	Generalist
Sex	F	DOB			



rformance Observation

ase [illegible]graphy

ultural:

me:

Physical Information

General:

Medical:

Speech:

Vision:

Hearing:

Psycho-Social

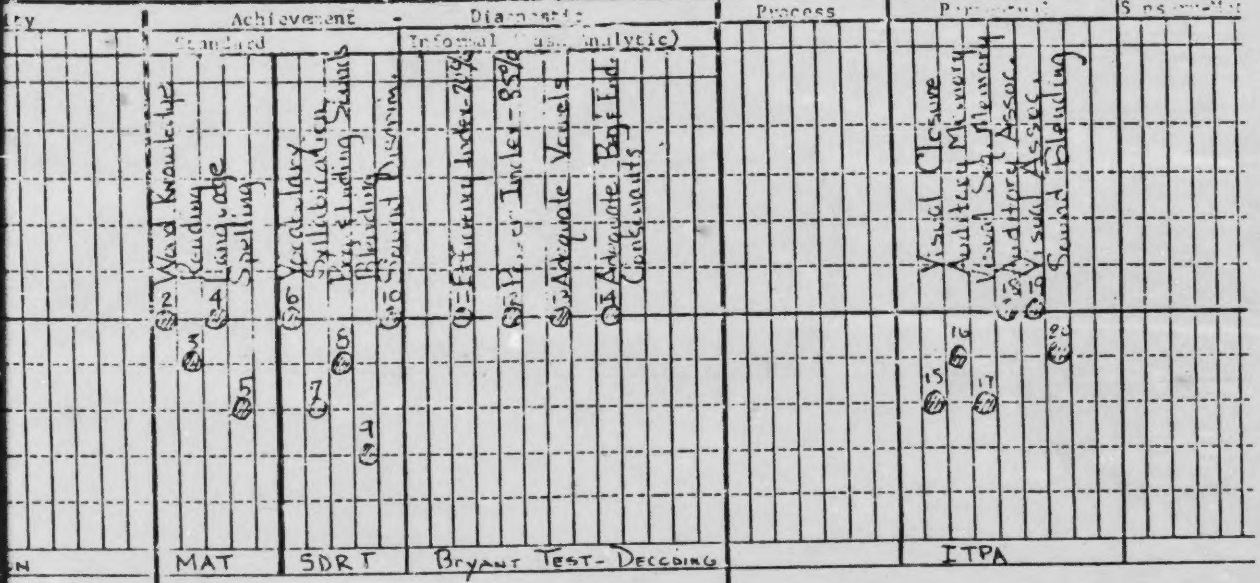
Adjustment Description:

Project Questionnaire:

Behavior Observation (SOB)

ROCKY MOUNTAIN REGIONAL RESOURCE CENTER STUDENT PROFILE

School Dunbar Elementary
Evaluation Date: 8-12-73
Grade level 3
Staff Generalist
DOB
Content Diagnosis



ervation

y

Physical Information

General:

Medical:

Speech:

Vision:

Hearing:

Psycho-Social

Adjustment Description:

Project Questionnaire:

Behavior Observation (SOB)

In answering the following questions refer to the diagnostic profile attached. Keep your answers brief.

Learning Module 16: Integration of Task and Process Analysis

1. What strengths and weaknesses does the diagnostic profile present that could be considered in writing a prescription? List the strengths and weaknesses and state the educational implications of each. Do not write a prescription.

Strengths	Weaknesses

* a score of 5 represents the average score

** a score of 3 or 7 represents 1 standard deviation above or below the average

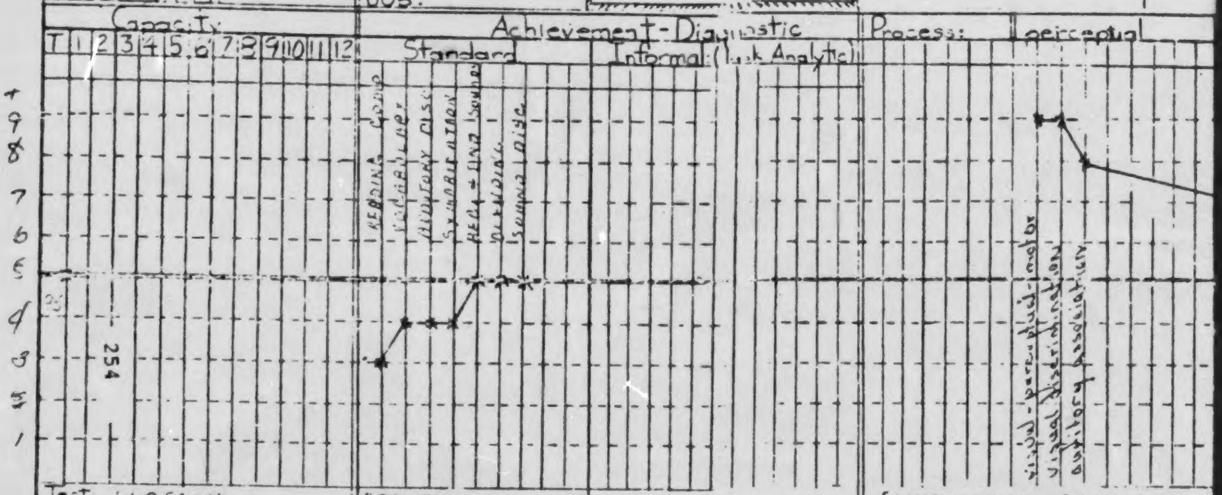
Name:
Chronological Age: 9
Sex: ☒M. ☐F

School:
Grade Level: 3
DOB:

Student Profile
RM:RRC

Evaluation Date:
Staff:

Conta



Test SLOSSON | STANFORD DIAGNOSTIC READING | SLINGERLAND SCREENING

Performance Observation: hesitant on visual motor tasks

Case Demography:

Culture: Caucasian middle class income level

Home: 4 siblings both parents employed [illegible] [illegible] father [illegible] mother [illegible] executive secretary

Physical Information

General: medium height, weight. Good complexion

Medical: no apparent problems

Speech: no apparent problems

Vision: checks o.k.

Hearing: checks o.k.

Psycho-Social:

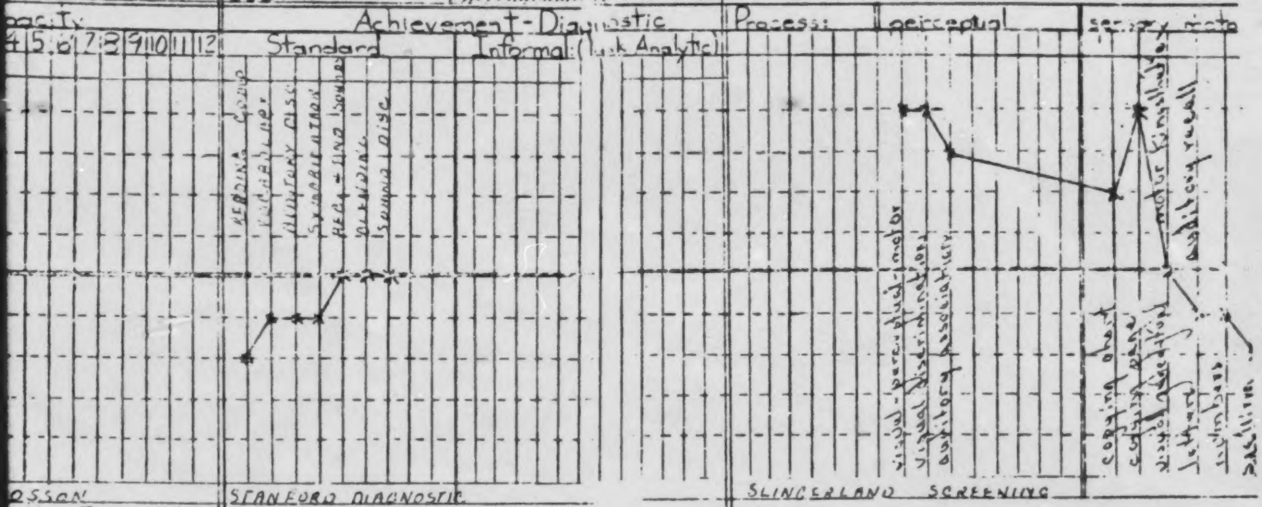
Adjustment Descrip: [illegible] especially during spelling [illegible] generally [illegible] no major behavior probl

Projective: Questionnaire: [illegible] less than capable [illegible] school

Behavior Observation (BOB): [illegible] are not frequent [illegible] attending activity [illegible] problems to other childr ore of 5 represents the average score

ore of 3 or 7 represents 1 standard deviation above or below the average

logical Age: 9	School:	Student Profile	Evaluation Date:	Content:
☒M. ☐F	Grade Level: 3	R.V.: RRC	Staff:	
	DOB:			



OSSON

hesitant on visual motor tasks

STANFORD DIAGNOSTIC READING

SLINGERLAND SCREENING

emography:

[illegible]

Physical Information

General: medium height, weight. Good complexion

Medical: no apparent problems

Speech: no problems apparent

Vision: checks o.k.

Hearing: checks o.k.

Psycho-Social:

Adjustment Descrip: [illegible] generally passive during reading [illegible] behavior problems

Projective: Questionnaire: [illegible] less than capable [illegible] school

Behavior Observation (ETOB): [illegible] are [illegible] frequent [illegible] problems to other children

Learning Module 17: Student Learning Style

2. What statement(s) could you make about how the student learns best? (from the profile above)

Learning Module 18: Matching Appraisal and Remediation

3. What remedial approach would you recommend given the above profile?

4. Rewrite the following into an objective making it specific and measurable.

   Jan is an eight year old girl with inadequate auditory discrimination skills. She will be taught to discriminate short vowel sounds in daily oral sessions.

Learning Module 19: Instructional Materials

Instructional materials (games, commercial programs, etc.) can be gestalted into five main educational areas: 1) mathematics; 2) reading/language arts; 3) perceptual; 4) sensory-motor; and 5) psychosocial. For each area list from 4 to 8 materials which could be utilized when a student has difficulty within that particular area. For example, the Distar Math Program can be used to remediate math difficulties.

Learning Module 20: Use of Instructional Methods/Techniques

Instructional methods or techniques can be gestalted into five main educational areas: (1) mathematics; (2) reading/language arts; (3) perceptual; (4) sensory motor; and (5) psychosocial. For each area list from 2 to 5 methods or techniques, including individual or group activities based on each, which could be utilized when a student has difficulty within that particular area. For example, in the psychosocial area, letting a child earn points on number of math pages completed for extra recesses is an activity under the technique of reinforcement. Use extra sheets of paper as necessary.

Learning Module 21: Matching Instructional Methods with Remediation

Combine 1 to 3 materials, techniques and/or methods you would use in programming the child based on the prescriptive-remedial approach from question 18.

Learning Module #22: Specification of Performance Criteria

Define performance criteria. Decide on the performance criteria for the two given examples.

Examples:

1. Given a spelling test with five words, what would the performance criteria be?

2. Given an assignment of multiplication problems involving a 2 digit multiplier and a 4 digit multiplicand, what would the performance criteria be and how would it change for a hyperactive child? State performance criteria for both non-handicapped and hyperactive child.

Learning Module #23: Matching Performance Adjustment to Performance Criteria

Billy has been in a remedial math program conducted by his teacher. He has just taken, along with his classmates, a teacher made test on division (2 numbers into 3 numbers). Performance criteria for the class has been stated as: the student will correctly multiply 7 out of 10 problems in 20 minutes. Billy's performance level was 6 correct problems in 25 minutes. Johnny and Mary, his classmates, got 5 and 9 correct problems respectively. Two weeks ago, Billy achieved, on a similar test, 3 correct problems out of 10, Johnny's score was 5, and Mary's was 8.

1. How would you use this test as an intra/individual measurement?

2. How would you use this test as an inter/individual measurement?

Billy's teacher wants some feedback from you, the generalist, about leaving Billy in the remedial math program, his achievement in relation to his peers and the effectiveness of the remediation program. What would you tell her about each of these?

Appendix F

Bibliography on Competency Based Training Programs

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Appendix G

Bibliography on Competencies and Skills Needed By Stratistician/Generalists

BIBLIOGRAPHY ON COMPETENCIES AND SKILLS NEEDED
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Appendix H

Summary Content Analysis of Stratistician/Generalist Training Program

Summary content analysis of 24 competency statements developed in RMRRC Competency Based Generalist Training.

Competency statements were placed in each of the appropriate process cells, for the "Identification", "Diagnosis", "Prescription", Programming", and "Evaluation" content columns. For the purposes of group consensus, content itemization, (by which "training components" and performance objectives were written) were clustered into basic categories, so that individualized groups could later develop these into methods of approach.

Identification

The following "Identification" outline for content was developed:

Module No.

1. The generalist shall demonstrate an understanding of specific speciality areas and classification criteria
    - A. Educable Mentally Retarded
        1. Legal definition
        2. Practical definition
        3. Personal criteria and/or informal methods for identifying this disabled child
        4. Characteristics
            - a. Behavioral
            - b. Academic
            - c. Functional capacities
        5. Profile
            - a. Total
            - b. RMRRC
    - B. Trainable Mentally Retarded
        1. Legal definition
        2. Practical definition
        3. Personal criteria and/or informal methods for identifying this disabled child
        4. Characteristics

      - a. Behavioral
      - b. Academic
      - c. Functional capacities

   - 5. Profile

      - a. Total
      - b. RMRRC

- C. Emotionally Disturbed

   - 1. Legal definition
   - 2. Practical definition
   - 3. Personal criteria and/or informal methods for identifying this disabled child
   - 4. Characteristics

      - a. Behavioral
      - b. Academic
      - c. Functional capacities

   - 5. Profile

      - a. Total
      - b. RMRRC

- D. Blind and Partially Seeing Children

   - 1. Legal definition
   - 2. Practical definition
   - 3. Personal criteria and/or informal methods for identifying this disabled child
   - 4. Characteristics

      - a. Behavioral
      - b. Academic
      - c. Functional capacities

   - 5. Profile

      - a. Total
      - b. RMRRC

- E. Deaf and Hard of Hearing

   - 1. Legal definition
   - 2. Practical definition
   - 3. Personal criteria and/or informal methods for identifying this disabled child

4. Characteristics

    a. Behavioral
    b. Academic
    c. Functional capacities

5. Profile

    a. Total
    b. RMRRC

F. Speech Impaired Children

    1. Legal definition
    2. Practical definition
    3. Personal criteria and/or informal methods for identifying this disabled child
    4. Characteristics

        a. Behavioral
        b. Academic
        c. Functional capacities

    5. Profile

        a. Total
        b. RMRRC

G. Learning Disabled

    1. Legal definition
    2. Practical definition
    3. Personal criteria and/or informal methods for identifying this disabled child
    4. Characteristics

        a. Behavioral
        b. Academic
        c. Functional capacities

    5. Profile

        a. Total
        b. RMRRC

H. Cerebral Palsy and Associated Areas

    1. Legal definition
    2. Practical definition
    3. Personal criteria and/or informal methods for identifying this disabled child

4. Characteristics

   a. Behavioral
   b. Academic
   c. Functional capacities

5. Profile

   a. Total
   b. RMRRC

Module No.

2. Generalist shall demonstrate an understanding of learning theories

   A. Mind-Substance

      1. Titchner-Apperception

   B. Conditioning Theories

      1. Thorndike Connectionism
      2. Watson Conditioning-Behaviorism
      3. B.F. Skinner Reinforcement-Conditioning

   C. Cognitive Theories of Gestalt-field

      1. Kurt Lewin-Field Theory

   D. Developmental

      1. Jean Piaget

   E. Organismic

      1. Werner

   F. Principles of Learning

3. The generalist shall utilize conventional task analysis of basic subject areas

   A. Reading-Criterion Reading
   B. Mathematics - Revised Developmental Math
   C. Motor - Barsch-Kephart Combination
   D. Task Analysis Technique

4. The generalist shall utilize conventional process analysis of basic subskills (in task analysis)

A. Process - Osgood-Wepman "Model"
B. Process Analysis Technique

5. The generalist shall interpret personality-behavioral patterns

    A. Affective Conflict Isolation Models

        1. Description
        2. Uses

    B. Model of "Man"

        1. Need for self-esteem
        2. Evidences

    C. Group Models

        1. Description
        2. Uses

    D. Communication Models

        1. Description
        2. Uses

    E. Pathology Models

        1. Types of distortions
        2. Uses

    F. Therapy Models

        1. Bases
        2. Techniques
        3. Uses

    G. Personal Insight Model

        1. Need
        2. Techniques

6. The generalist shall synthesize identification factors and derive a diagnostic direction.

Diagnosis

The following "Diagnosis" outline for content was developed:

7. The generalist shall demonstrate an understanding of student demographic variables

A. Family pattern - home visitation, parent interviews

    1. Sibling
    2. Age
    3. Health

B. Cultural description - environment

    1. SES
    2. Nationality

8. The generalist shall demonstrate an understanding of formal test batteries

    A. Nature of Intelligence

        1. Theoretical concepts

            a. total factor (g) Binet
            b. split factor

                1) V - P
                2) multi

    Measurement

        1. CTMM - SIT----IA measure
        2. MAT SDRT----achievement and subject survey
           CAT SDAT
        3. ITPA----Process
           DTLA, May '74

9. The generalist shall administer formal test batteries

    A. Measurement

        1. Achievement (CTMM)
        2. Intelligence (SIT)
        3. Process (ITPA, DTLA, May '74)

10. The generalist shall administer informal test batteries

    A. Subject area

        1. Reading Inventory (Bryant Decoding, etc.)
        2. Math (CTBS, Scagliotti)

    B. Psycho-social

        1. Pupil interview and observation

        a. Sentence - open end (Completion) source: Taylor, Edith
        b. SOB
        c. Sociometric techniques
        d. Coppersmith, Children's Manifest Anxiety Test, Anxiety Scale, Social Desirability Scale.

    C. Motor

        1. Lincoln Otseresky

    D. Integration

        1. Slingerland

11. The generalist shall interpret formal test batteries

    A. Description base

        1. Grade level
        2. Mental factors
        3. Processes
        4. Sub Tasks
        5. Informal implications (test behavior)

    B. Recording - measurement unit

        1. Raw-scaled
        2. Standard deviation
        3. Stanine
        4. Tables
        5. Norm referenced

12. The generalist shall interpret informal test batteries

    A. Description base

        1. Grade level
        2. Mental factors
        3. Processes
        4. Sub tasks
        5. Informal implications (test behaviors, etc.)
        6. Criterion basis

13. The generalist shall interpret pupil interviews and observations

    A. SOB - summarizing
    B. Indicators, affective

14. The generalist shall formulate a diagnostic statement from a single test

    A. Rate of learning
    B. Function - process discrepancy
    C. Relate to school tasks
    D. Make statement

15. The generalist shall formulate diagnostic conclusion from cumulative information

    A. Balance and weigh information

        1. Test battery (formal-informal)
        2. Demographic information
        3. School history
        4. Other agency information

    B. Conclusion

Prescription

16. The generalist shall interpret the results of task and process analysis

    A. Performance conditions

        1. Power of learning

            a. quality
            b. quantity
            c. rate

        2. Environmental conditions

            a. total environment
            b. learning environment

    B. Level of difficulty

        1. Task analysis

            a. reading
            b. math
            c. sensory motor

        2. Process analysis

            a. perceptual
            b. sensory motor

17. The generalist shall write a statement(s) about a student's learning style based on strengths and weaknesses

A. List of variables (strengths and weaknesses)

1. Reading
2. Math
3. Sensory motor
4. Perceptual
5. Physical
6. Psycho-social
7. Environmental

B. Write learning style statements

1. Reading
2. Math
3. Sensory motor
4. Perception
5. Physical
6. Psycho-social
7. Environmental

18. The generalist shall match appraisal with a remedial approach

A. Interpret the profile
B. Write an educational prescription

Programming

The following "Programming" outline for content was developed:

19. The generalist shall demonstrate understanding of purpose and use of instructional material

A. Remedial approaches (see monograph)

1. Auditory Perception (and others) - (self-help experiences)

a. Instructional materials

(1) Commercial

(a) Modifying existing
(b) Teacher-developed

        b. Self-Contained programs (rationale)
        c. Enrichment Programs (rationale)
        d. Retrieval - Location (rationale)

20. The generalist shall demonstrate the use of instructional methods/techniques

    A. Instructional methods and techniques

        1. Math (Lehtinen, Fernald, Stern, Precision Teaching)
        2. Reading (Fernald, Spalding, Gates, Monroe, Gillingham, Arillman, Precision Teaching)
        3. Psychosocial (Conferences and Student Contracts, Space Arrangement, Behavior Modification, Token Economy)
        4. Perceptual (Barsch, Myklebust, Barry)
        5. Sensory-Motor (Barsch, Kephart)

    B. Classroom Activities based on above techniques and methods worksheets

21. The generalist shall match instructional materials and/or techniques with diagnostic - remedial approach

    A. Match materials and/or techniques and methods to disability areas
    B. Apply to practice profile
    5 (1 in each area) to work on individually

22. The generalist shall specify performance criteria within an instructional program

    A. Limitations to implementing program(s) (time, teacher, ability, materials)
    B. Deciding upon performance criteria applied to practice profile
    C. Performance Criteria applied to the 5 program profiles

Evaluation

The following "Evaluation" outline for content was developed:

23. The generalist shall match performance adjustment to performance criteria

- A. Criteria
- B. Ranges
- C. Limits
- D. Confidence interval

24. The generalist shall determine adjustment as acceptable or unacceptable

    A. Alternatives

    1. Reteach
    2. Continue
    3. Recycle
    4. Educated alternatives

Interpersonal Communication Skills

25. The generalist shall demonstrate an awareness of human interaction processes

    A. Factors in relating as a human being

    B. Communication processes

    1. Hearing where the other person is

        a. Roadblocks to communication
        b. Reflective/active listening

    2. Sending where you are

        a. Congruent forthright sending
        b. "I" messages

    C. Problem solving methodology

    1. Interpersonal problems

        a. Where you are involved
        b. Mediating between two people

    2. Group problem solving

    D. Factors critical to acceptance in the school

    1. Reading the environment
    2. Basic stances about your role
    3. Basic stances about teachers

Appendix I

Problem Children: An Assessment of Teacher Observations and Attitudes

PROBLEM CHILDREN: AN ASSESSMENT OF TEACHER OBSERVATIONS AND ATTITUDES[1]

Judy Ann Buffmire

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Working Paper No. 2

October, 1971

ROCKY MOUNTAIN REGIONAL RESOURCE CENTER

DEPARTMENT OF SPECIAL EDUCATION

UNIVERSITY OF UTAH

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These papers are intended primarily as informal communications to, and among members of the Rocky Mountain Regional Resource staff and faculty of the Department of Special Education. The materials contained herein are generally not in final stages of refinement and are not to be cited without the authors' permission.

Problem Children - An Assessment of Teacher Observations and Attitudes

Rocky Mountain Regional Resource Center

In the early part of 1971, the Rocky Mountain Regional Resource Center (RMRRC) developed a questionnaire (Exhibit I.1) designed to assess generally how typical classroom teachers perceive and deal with "difficult" children. By difficult is meant any sort of behavioral, attitudinal or learning problem that has not been judged severe enough to warrant assigning the child to a special class, but of sufficient consequence to interfere with the educational process. The rationale of the questionnaire was based on two major premises: (1) There are many children in Utah who need special educational help who are not yet getting it. An estimated 40% of the expected population of exceptional children in Utah are not being served by special educational services. (2) The mere fact of labelling a child almost certainly influences in some significant way the manner in which teachers, mental health professionals, administrators and the child's peers interact with him. Rosenthal and Jacobsen (1968) present a strong case for the reality of the interpersonal "self-fulfilling prophecy"--i.e., knowing that a student is "mentally retarded" very often causes his parents, teachers, and others to deal with him in ways different from the ways they deal with "normal" students. Though not the cause of the child's condition, these differences in interaction may serve to accentuate and magnify that condition rather than improve it.

Proceeding then on the above premises, a questionnaire was devised to ascertain how teachers assess classroom problems and what strategies they use to solve them. Some of the terms used in the questionnaire were purposely rather general and ambiguous in the expectation that lack of specificity would cause the teacher to report problems on the basis of what were actually difficulties in the classroom rather than interpreting those problems on the basis of an individual conception of the criteria for "mentally retarded," "emotionally disturbed," etc. However, complete avoidance of labelling is obviously undesirable in this type of questionnaire, because some questions simply cannot be asked without using such terms as "mildly retarded" or "mildly educationally handicapped."

Method

The basic purpose of the questionnaire is to provide the necessary information for selection and training of special "resource" personnel called stratisticians. The purpose of a stratistician as seen by the RMRRC is to aid the classroom teacher in dealing with her "difficult" students. Because the stratistician, according to the model, would be working closely with the teacher (actually working through the teacher), it seemed appropriate to gather responses about various attitudes from a sample of teachers from various kinds of schools with the intent of discovering any differences among schools that might affect stratistician assignments. It was decided to gather a sample stratified along such lines as socioeconomic level, teaching method used in the school, percent of ethnic minorities in the school, and location of the school (rural, suburban, central-city). This sample was taken in four of the five Salt Lake area districts: Murray, Granite, Davis, and Salt Lake. To give added depth to the sample, questionnaires were sent to the rural area in the southwest region of Utah. Five of the seven districts responded, with a total return of over 175 questionnaires from Kane, Garfield, Iron, Washington, and Millard districts. Another 81 questionnaires came from Tooele District, for a total return of 356 questionnaires. This total represents 6% of the State's teachers and 59% of the teachers in the schools chosen for the study. The percentage of questionnaire completion and return was 60% for the Salt Lake area districts, 55% for Tooele District, and 81% for the five Southwest Utah districts. Total return was 67.5%.

A more explicit explanation of the stratified sample is in order. Initially, steps were taken to gain approval for the project from the State Board of Education. The State Board reviewed the questionnaire and the proposal and wrote a letter to the districts involved (Salt Lake, Granite, Murray, Jordan, and Davis) urging their cooperation, with the understanding that cooperation would be entirely voluntary. Personnel at the districts involved were then contacted. The purpose of the visit to the district offices was not only to gain permission to approach the schools on the matter, but also to obtain a judgment about what schools appropriately fall into the categories mentioned above, i.e., high and low socioeconomic area, high and low percentage of ethnic minorities, location (central-city, suburban, rural) and teaching method. No effort was made here to check rater reliability. Since only a few of the most extreme cases in any given category were selected, the estimates by district personnel were assumed to be accurate and reliable. The districts involved gave permission to conduct the study on the condition that cooperation be entirely at the discretion of the individual school principals. It would be well to mention here that not all of the schools chosen were subsequently contacted, for the reason that the school year was very nearly over when the study was begun and time did not suffice. However, this did not differentially affect any part of the sample stratification. Principals were then contacted, and despite the closeness of the end of the school year, nearly all of them cooperated.

The questionnaires from the Southwest region were obtained by mailing a number of questionnaires to the various district offices, with whom prior contact had been made, whereupon the districts themselves distributed and collected them, and mailed them to the RMRRC offices. Questionnaires from Tooele had already been obtained incident to a previous study.

Results and Discussion

This section consists of two main parts. The first part deals with analyses of the body of the questionnaire, questions 1-22. These questions are oriented to unique RMRRC data needs and are of principal interest in this study. Analyses were threefold: (1) summary data (means, percentages) of the total sample; (2) comparison according to predetermined lines of sample stratification; and (3) comparison among school districts and areas of the state. Inasmuch as this study was primarily intended to be a search for some general guidelines, a minutely detailed analysis was not made. Trends, large differences, and high correlations comprise the bulk of the analysis. Also, only those questions that easily lend themselves to quantitative analysis are discussed; questions 4 and 12 are omitted. Exhibits I.2 and I.3 summarize the data from the first section. Computer analysis was done in cooperation with the University of Utah Computer Center with the CLANG processor, a demand-mode, multi-purpose data processing system developed by John Hawkins of the University.

The second part is an analysis of the last page of the questionnaire, a checklist of 48 behaviors taken from a list of 50 behaviors used in a study by Mutimer and Rosemier (1967) and originally developed by Wickman (1928). Their study and numerous previous studies have dealt with the moral, legal, or social seriousness of certain behaviors. The present study deals exclusively with behaviors as they actually exist as problems in the classroom. A detailed report on this phase of the study will be available from the Center separately. A summary of these results comprises Appendix D. This information will be used for training of statisticians in methods to most effectively deal with behaviors most often a problem in the classroom.

Section I

The first part of the questionnaire deals with four separate topics. They are:

a. magnitude and scope of the problem (questions 1, 2, 3 and 6);

b. assessment of the help presently available (questions 4, 11, 13, 14);
c. attitudes about the stratistician model (questions 7-10);
d. attitudes about general aspects of special education (questions 15-22).

A. Magnitude of the Problem (see Exhibit I.2, Table 1)

Teachers in the sample estimated from their total teaching experience that in a class of 30, about 5.3 students would be classified as difficult. They estimated that this 17.6% of the class required about 26.4% of their classroom time. Male teachers estimated more problem students than female teachers (5.5 vs. 5.2), but spent a smaller proportion of the school day dealing with them (22.4% vs. 28.4%). The most striking differences, however, were between teachers in central-city schools and those in suburban schools. The central-city teachers averaged 6.7 difficult students and spent more than a third of their school day (36.3%) dealing with them, whereas suburban teachers reported about 4.7 students and used 24.9% of their day with them. Rural teachers averaged very close to the sample mean on both questions (5.3, 26.0%). Similar differences occur between teachers in areas with a high percentage of ethnic minorities versus a low percentage and high versus low socioeconomic areas.

Question 6 revealed some interesting attitudes regarding the number of "mildly retarded" children a teacher would be willing to accept (or could effectively handle) in a class of 30 (part "a") or in a class of 20 (part "b"). The sample average for part "a" was 2.2, significantly lower than the average for question 1. The average for part "b" was 3.5. Male teachers reported a willingness to accept more "mildly retarded" students than female teachers did, regardless of class size (2.8 vs. 2.0 for a class of 30; 4.2 vs. 3.3 for a class of 20). Central-city teachers averaged higher than suburban teachers on both parts of this question, but rural teachers were the most "accepting" of the three. There were no other striking differences on question 6.

B. Help Presently Available for the Teacher (see Exhibit I.2, Table 2)

Help for the teacher normally comes from two different levels--the school (question 5) and the district (questions 11, 13, and 14). Question 5 asked for a rating of helpfulness of various persons in the school--the principal, fellow teachers, special class teachers, and "other." Since not every school has persons for all of these functions, the analysis is based only on those responded to on the various parts of the question. On the average, principals were viewed as the single most helpful individual in the school, with a score of 2.89 ("highly helpful") on a four-point helpfulness scale. Fellow teachers were the next most helpful (2.65) and "other" - psychologists, district personnel, social workers, and most frequently, parents--close behind at 2.58. Special class teachers ranked fourth (2.49) and counselors fifth (2.18, or "mildly helpful"). Also, it can be assumed that since special education teachers customarily have children assigned to them throughout the day, little time is available for consultation with other teachers. Since very few elementary schools have counselors at all, the low helpfulness score for counselors could be attributed in part to a strong bias in the resultant sample.

The responsibility of providing special education services falls almost without exception to the district. Obviously, then, an assessment of the effectiveness of special education in the schools is a reasonable measure of how well the district program is meeting teacher needs.

For the sample as a whole, 53% reported using a special education service in the ongoing work of the class. Those services were rated slightly higher than "mildly effective," and 84% said they wanted more special services than are now available.

C. The Stratistician Model (see Exhibit I.2, Table 3)

In interpreting this section of the results, it must be borne in mind that the stratistician model is new and that teachers were given only a very limited explanation of it in the cover letter to the questionnaire (Exhibit I.1). These conditions notwithstanding, the responses to questions 7-10 seem to indicate reasonably good teacher conceptualization of the model. In summary, here is the picture of the preferred person and role for a stratistician from the teacher's standpoint: It is highly important for the stratistician to share my educational philosophy, but his age and sex do not matter. It is only mildly important that I have a voice in choosing the stratistician in my school. I would prefer to share responsibility for problems equally with a stratistician (65%), or at least have him available to me for consultation (25%), and would find release time to plan with a stratistician desirable (48%) or imperative (38%).

In this section of the questionnaire there were only minor differences among the major divisions of the sample.

D. General Attitudes About Issues in Special Education (see Exhibit I.2, Table 4)

The fifth page of the questionnaire contains seven questions dealing with attitudes taken from the Missouri Conference on the Categorical/Non-Categorical issue in Special Education (1971). The teacher was instructed to indicate in what position he viewed himself on these issues on a six-point continuumfrom "strongly agree" (1) to "strongly disagree" (6). Following is a discussion of where the teachers in the sample placed themselves on this scale, with interesting differences among central-city, suburban, and rural teachers noted. It should be noted that the midpoint of the scale is 3.5, but this does not mean "no opinion," or lack of either agreement or disagreement. A mean of 3.5 simply indicates a fairly equal number and range of agreements and disagreements among the teachers in the sample. There are indications that the response distributions for all the questions are unimodal and fair approximations to the normal distribution.

> Question #15: "The presence of a handicapped child in a regular classroom impedes the educational progress of the child's 'normal' peers."

On the average, teachers slightly disagreed with this statement (3.75). Central-city teachers were strong in their disagreement (4.54), while suburban teachers agreed slightly more (3.57).

> Question #16: "Integration of the handicapped child into the regular class will improve the child's acceptance by his 'normal' peers."

There was slight agreement in general on #16 (2.56), with no major differences among groups.

> Question #17: "An immediate large scale transfer of special class children to regular classes would create no major problems other than the need for personnel."

There was general disagreement (4.33), with suburban teachers disagreeing a little more (4.54) and rural teachers a little less (4.01).

> Question #18: "Not labelling the handicapped child is idealistic and can never be fully achieved in special education."

Excepting central-city teachers (3.46) there was overall agreement (2.85) with this statement.

> Question #19: "Labelling the child encourages isolation from his 'normal' peers."

Teachers showed a good deal of agreement on the average (2.26), with central-city teachers agreeing slightly more (2.05) and rural teachers slightly less (2.48).

> Question #20: "Self-contained special classes for the handicapped contibute to discrimination against children of the poor."

Mild disagreement was general (4.21), although central-city teachers disagreed less (4.00). Teachers in high socio-economic (SEC) schools disagreed less (3.85) than teachers in low SEC schools (4.18).

> Question #21: "Special classes for handicapped children are justified."

Here was the strongest agreement on any of the questions (1.92).

On Question #22, 71% said they would be interested in a workshop, while 20% would not.

It is interesting to note that there are no consistent patterns of agreement and disagreement between central-city, suburban, and rural school teachers. However, central-city teachers disagreed more with both suburban and rural teachers than suburban and rural teachers did with each other.

Correlational Data

Intercorrelations among such things as the location and socio-economic (SEC) level of the school, number of years experience of the teacher, the number of difficult children teachers perceive and the number they feel they could handle in a classroom are reported in Exhibit I.3. The only significant correlations are the following:

> Location and ethnic minority. The proportion of ethnic minorities in a central-city school is higher than the proportion in a suburban school, which is in turn higher than in a rural school.
>
> Location and SEC level. The closer a school is to central-city, the lower its SEC level. The correlation is somewhat poorer than the preceding one because of the weak relationship between SEC levels of suburban and rural schools.
>
> Question #1 and question #2. There is a positive, fairly high correlation between the number of difficult children perceived in a class and the amount of time spent dealing with them.
>
> Question #6a and question #6b. This high correlation simply states that there is a positive association between the number of "mildly retarded" children a teacher would feel capable of handling in a class of 20 and the number of the same children she could handle in a class of 30.

There are no surprisingly high correlations in the table--the results reported above seem almost obvious. If there are any surprises at all, they might be found amoung the non-significant correlations that one might expect to be higher (question 2 and question 6, for example).

Section II

Ratings of a list of 48 behaviors on the last page of the questionnaire (Exhibit I.1) were obtained from the present group of teachers in a significantly different manner than they have been previously obtained. In asking teachers how much of a problem each of the various behaviors posed to them in the classroom, this study aimed at assessing what behaviors were considered most disruptive or problematic and to what degree they posed such a problem. Other studies have examined primarily the "seriousness" of the same behaviors, but by seriousness was meant either the degree to which the behaviors violated the rater's moral or social code or the direness of the consequences to the student should he exhibit those behaviors. In his studies, Wickman (1928) also obtained ratings of frequency for each of the 50 behaviors on his list. However, neither "seriousness" nor "frequency," either separately or combined, is the same as the degree to which a given behavior is a problem to a teacher in her classroom.

In the present study, teachers were asked to rate each of the 48 behaviors on a scale from 1 (Not a problem) to 6 (A severe problem). The mean rating for each of the behaviors was calculated, and the behaviors were then ranked from the highest (most severe problem) to the lowest (least severe problem). Appendix D shows the mean rating on each behavior and compares the present rankings with Wickman's rankings according to seriousness (1928, p. 124) and Hunter's (1957) later replication of Wickman's study. Rank-order correlation coefficients were computed for the RMRRC results vs. Wickman's original results and for the RMRRC results vs. Hunter's results. Neither correlation was significant, but the present results correlated better with Hunter's more recent results ($r = .142$) than with Wickman's study done in 1926 ($r = -.035$). This lends support to the hypothesis that the present study is in fact asking a different question (and one probably more useful in determining strategies for helping teachers) than Wickman's study or any of the later replications and modifications of his work. Since the present version of Wickman's list omits two behaviors (masturbation and heterosexual activity), the same items were dropped from the other lists for purposes of comparison. The remaining items were ranked from 1 to 48. In cases where items received the same mean rating by teachers, the ranks of those items were averaged and the average rank then was assigned to each tied item.

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The ten items rated most serious by the RMRRC sample of teachers are these:

1. Inattention
2. Tattling
3. Quarrelsomeness
4. Cruelty, bullying
5. Interrupting
6. Carelessness in work
7. Attracting attention
8. Laziness
9. Restlessness
10. Disorderliness in class

It is interesting to note that these 10 items are very classroom oriented. That is, they are behaviors most often found disrupting in a classroom, whereas Hunter's teachers' most serious item was stealing, indeed a serious behavior but hardly one that often disrupts the total educational process. A person interested in making an important contribution to education would find effective ways of helping the teacher deal with these problems, starting at the most serious and proceeding down the list. The stratistician, as conceived in the RMRRC model, is a knowledgeable, available person a teacher could turn to for help in order to begin solving these problems. Assuming the reason many such problems arise is that there are children in the class who need special help and who are not getting it, the stratistician is getting at the very roots of the difficulty by working with the teacher to devise and implement strategies to help those children. The list of problem behaviors can be of value in determining strategies for administering help to teachers.

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Exhibit I.1

ROCKY MOUNTAIN RESOURCE CENTER
710 East Second South, 3-G
Salt Lake City, Utah
322-6281

Date: April 22, 1971

Dear Teacher:

One of the purposes of the Rocky Mountain Resource Center is to help regular classroom teachers devise ways to produce more desirable educational outcomes with their more "difficult" students--students who, for whatever reason, have been unable to make an adequate adjustment to the educational environment. Our preliminary interviews with teachers indicate that it is commonplace for a small minority of difficult students to command a disproportionately large share of the teacher's classroom time.

The purposes of this questionnaire are threefold: (1) to ask you to provide us with an estimate of the percentage of students you would classify as difficult so that we will know more about the magnitude of the problem that faces teachers; (2) to ask you what methods you have found successful in coping with such students so that we can use this information in training people, called stratisticians, and (3) to determine your feelings about having a stratistician in your school whose sole function would be to work with you in developing programs to attain your educational goals with difficult students.

We will appreciate your cooperation in completing the attached questionnaire. If you have suggestions that will improve the questionnaire we would be pleased to have you note them where appropriate. Any comments or elaborations would also be welcomed.

Thank you for your cooperation.

Your name______________________________Sex___Years of teaching experience___

School name__________________________________Grade level currently taught___

Subject taught (if appropriate)____

1. Based upon your total teaching experience, in a class of 30 students how many would you estimate would be classified as difficult?_______

2. On the average, what percentage of your classroom time have these students demanded of you?_____________

3. How much of your outside regular school time do these students demand of you?_________

4. Describe a behavior problem you have successfully dealt with recently. Indicate the method (strategies) used:

5. Rate the extent to which you find discussing difficult students with the following people helpful:

principal:
not helpful___mildly helpful___highly helpful___extremely helpful___

fellow teacher:
not helpful___mildly helpful___highly helpful___extremely helpful___

special class teacher:
not helpful___mildly helpful___highly helpful___extremely helpful___

counselor:
not helpful___mildly helpful___highly helpful___extremely helpful___

other: (specify)
not helpful___mildly helpful___highly helpful___extremely helpful___

6. Assuming you had a normal class load of 30, how many mildly retarded children would you be willing to accept in your class?__________

If your class load were 20, how many mildly retarded students would you be willing to accept in your class?_________

7. To what degree would the following be of importance to you in developing working relations with a stratistician?

   a. that the stratistician have the same educational philosophy as mine: not important___mildly important___ highly important___extremely important___

   b. that the stratistician's age be comparable to mine: not important___mildly important___highly important___ extremely important___

   c. that I have a voice in choosing the stratistician in my school: not important___mildly important___highly important___ extremely important___

8. I would prefer that the stratistician be:

male___female___doesn't matter___

9. Which of the following roles would you prefer the stratistician to assume:

   a. take responsibility of problems___

   b. equally share responsibility on problems___

   c. have no responsibility, but be available to me for consultation___

   d. no role at all___

10. Release time to plan with a stratistician would be

   a. imperative___

   b. desirable, but would try to work without it___

   c. if not provided, I couldn't find time to work with stratistician___

   d. not needed __

11. Do you use a special education service in the ongoing work of your class? Yes_____ No_____

12. If yes, what types of service do you use:

13. How would you evaluate the effectiveness of the present special educational services as they apply to your classroom? not effective____ mildly effective____highly effective____extremely effective____

14. Would you like more special services to help you with difficult students than now are available? Yes____ No____

(rev.5/10/71)

Please use THE MILDLY EDUCATIONALLY HANDICAPPED as the criterion reference for the following questions. Check the appropriate space on a scale of six, from Strongly Agree (first blank) to Strongly Disagree (sixth blank).

Strongly Agree — Strongly Disagree

15. The presence of a handicapped child in a regular classroom impedes the educational progress of the child's "normal" peers. ___ ___ ___ ___ ___ ___

16. Integration of the handicapped child into the regular class will improve the child's acceptance by his "normal" peers. ___ ___ ___ ___ ___ ___

17. An immediate large scale transfer of special class children to regular classes would create no major problems other than the need for personnel. ___ ___ ___ ___ ___ ___

18. Not labeling the handicapped child is idealistic and can never be fully achieved in special education. ___ ___ ___ ___ ___ ___

19. Labeling the child encourages isolation from his "normal" peers. ___ ___ ___ ___ ___ ___

20. Self-contained special classes for the handicapped contribute to discrimination against the children of the poor. ___ ___ ___ ___ ___ ___

21. Special classes for handicapped children are justified. ___ ___ ___ ___ ___ ___

22. Would you be interested in a workshop? yes___ no___

A. Please rate the degree to which the following behaviors have been a problem in your classroom. The scale of six is from Not a Problem (first blank) to A Severe Problem (sixth blank). Make your ratings quickly and attempt to rate each item.

Not a Problem ... A Severe Problem

1. Stealing 1. ___ ___ ___ ___ ___ ___
2. Cruelty, bullying (picking on others) 2. ___ ___ ___ ___ ___ ___
3. Truancy (skip school) 3. ___ ___ ___ ___ ___ ___
4. Unhappy, depressed (sad) 4. ___ ___ ___ ___ ___ ___
5. Impertinence, defiance (talking back) 5. ___ ___ ___ ___ ___ ___
6. Destroying school property 6. ___ ___ ___ ___ ___ ___
7. Unreliableness (can't depend on) 7. ___ ___ ___ ___ ___ ___
8. Untruthfulness (lie) 8. ___ ___ ___ ___ ___ ___
9. Disobedience (not obey, not do as told) 9. ___ ___ ___ ___ ___ ___
10. Temper tantrums (temper outbursts) 10. ___ ___ ___ ___ ___ ___
11. Resentfulness (against--dislike) 11. ___ ___ ___ ___ ___ ___
12. Unsocial, withdrawing (not friendly) 12. ___ ___ ___ ___ ___ ___
13. Obscene notes/talk (dirty notes, talk) 13. ___ ___ ___ ___ ___ ___
14. Nervousness (jittery) 14. ___ ___ ___ ___ ___ ___
15. Cheating (copying) 15. ___ ___ ___ ___ ___ ___
16. Selfishness (not sharing) 16. ___ ___ ___ ___ ___ ___
17. Quarrelsomeness (argue, fight) 17. ___ ___ ___ ___ ___ ___
18. Domineering (bossy) 18. ___ ___ ___ ___ ___ ___
19. Lack of interest in school 19. ___ ___ ___ ___ ___ ___
20. Impudence, rudeness (not polite) 20. ___ ___ ___ ___ ___ ___
21. Easily discouraged (give up) 21. ___ ___ ___ ___ ___ ___
22. Fearfulness (afraid) 22. ___ ___ ___ ___ ___ ___
23. Suggestible (easily led) 23. ___ ___ ___ ___ ___ ___
24. Enuresis (wet the bed or the self) 24. ___ ___ ___ ___ ___ ___
25. Laziness (not active) 25. ___ ___ ___ ___ ___ ___
26. Inattention (not paying attention) 26. ___ ___ ___ ___ ___ ___
27. Disorderliness in class (acting up) 27. ___ ___ ___ ___ ___ ___
28. Sullenness (sulk, pout) 28. ___ ___ ___ ___ ___ ___
29. Physical coward (sissy) 29. ___ ___ ___ ___ ___ ___
30. Overcritical of others (finding fault) 30. ___ ___ ___ ___ ___ ___
31. Sensitiveness (easily hurt) 31. ___ ___ ___ ___ ___ ___
32. Carelessness in work (messy) 32. ___ ___ ___ ___ ___ ___
33. Shyness (bashful) 33. ___ ___ ___ ___ ___ ___
34. Suspiciousness (suspecting others) 34. ___ ___ ___ ___ ___ ___
35. Smoking (use of tobacco) 35. ___ ___ ___ ___ ___ ___
36. Stubbornness (bull-headed) 36. ___ ___ ___ ___ ___ ___
37. Dreaminess (day dream) 37. ___ ___ ___ ___ ___ ___
38. Profanity (swearing) 38. ___ ___ ___ ___ ___ ___
39. Attracting attention (cutting up in class) 39. ___ ___ ___ ___ ___ ___
40. Slovenly in personal appearance (sloppy) 40. ___ ___ ___ ___ ___ ___
41. Restlessness (over-active) 41. ___ ___ ___ ___ ___ ___
42. Tardiness (late) 42. ___ ___ ___ ___ ___ ___
43. Thoughtlessness (forgetting) 43. ___ ___ ___ ___ ___ ___
44. Tattling (telling on others) 44. ___ ___ ___ ___ ___ ___
45. Inquisitiveness (asking questions) 45. ___ ___ ___ ___ ___ ___
46. Interrupting (butting in) 46. ___ ___ ___ ___ ___ ___
47. Imaginative lying (exaggerating) 47. ___ ___ ___ ___ ___ ___
48. Whispering (talking softly) 48. ___ ___ ___ ___ ___ ___

B. Please circle the numbers of those behaviors for which you would ask help from a special education consultant, if one were available.

(rev.5/10/71)

Exhibit I.2

Table 1

					LOCATION			PERCENTAGE OF ETHNIC MINORITIES		SOCIO-ECON LEVEL		TEACHING METHOD	
Question	Total	Male	Female	District	Central City	Sub-urban	Rural	High	Low	High	Low	Tradi-tional	Team
N	356	79	263		37	194	124	72	268	42	49	240	87
1 - mean	5.29	5.52	5.23		6.70	4.70	5.33	5.79	4.99	5.14	6.41	5.26	4.98
2 - mean	24.4	22.4	28.4		36.3	24.9	26.0	31.0	25.2	20.9	34.8	28.3	23.7
3 - mean	9.0	7.9	9.7		13.5	7.2	10.4	10.6	8.6	7.5	11.5	9.6	8.4
6 -													
a - mean	2.17	2.77	2.01		2.38	1.97	2.42	2.01	2.26	1.73	2.34	2.19	2.18
b - mean	3.47	4.22	3.27		3.62	3.28	3.74	3.19	3.60	2.95	3.40	3.55	3.35

Exhibit I.2 (continued)

TABLE 2

Question	Total	Male	Female	District
N	356	79	263	
5.				
a-mean	2.83	2.80	2.84	
b-mean	2.65	2.66	2.62	
c-mean	2.49	2.54	2.46	
d-mean	2.18	2.16	2.21	
e-mean	2.58	2.38	2.65	
11.				
% Yes	53%	48%	55%	
% No	43%	48%	41%	
% No res	4%	4%	4%	
13.	2.28	2.42	2.27	
14.				
% Yes	78%	81%	78%	
% No	14%	14%	12%	
% No res	8%	5%	9%	

TABLE 3

Question	Total	Male	Female
N	356	79	263
7.			
a-mean	2.62	2.64	2.61
b-mean	1.15	1.24	1.10
c-mean	2.16	2.30	2.02
8.			
% Male	10%	28%	5%
% Female	1%	1%	2%
% Does not matter	88%	71%	93%
9.			
% a	7%	6%	7%
% b	63%	63%	61%
% c	26%	25%	30%
% d	4%	6%	2%
10.			
% a	38%	30%	41%
% b	48%	61%	45%
% c	8%	5%	10%
% d	3%	4%	3%

Exhibit I.2 (continued)

Table 4

					LOCATION			ETHNIC MINORITIES		SOCIO-ECON		TEACHING METHOD	
Question	Total	Male	Female	District	Central City	Sub	Rural	High	Low	High	Low	Trad	Team
N	356	79	263		37	194	124	72	268	42	49	240	87
15. mean	3.75	4.02	3.73		4.54	3.57	3.78	4.03	3.68	3.39	4.36	3.69	3.87
16. mean	2.56	2.52	2.56		2.73	2.56	2.51	2.58	2.54	2.37	2.68	2.64	2.46
17. mean	4.33	4.22	4.39		4.30	4.54	4.01	4.49	4.25	4.56	4.44	4.38	4.18
18. mean	2.85	2.86	2.88		3.46	2.74	2.82	3.19	2.76	3.02	3.26	2.78	3.00
19. mean	2.26	2.49	2.21		2.05	2.18	2.48	2.28	2.25	2.00	2.24	2.23	2.41
20. mean	4.21	3.91	4.30		4.00	4.22	4.25	4.36	4.16	3.85	4.18	4.23	4.14
21. mean	1.92	2.14	1.90		2.16	1.93	1.83	2.04	1.89	1.90	2.14	1.87	2.07
22.													
% yes	65	67	65										
% no	26	27	25										
% no response	9	6	10										

Exhibit I.3

SOME INTERESTING CORRELATIONS

	LOCATION	PROPORTION OF ETHNIC MINORITIES	SOCIO-ECON LEVEL	TEACHER'S YEARS EXPERIENCE	QUESTION #1	QUESTION #2	QUESTION #6a	QUESTION #6b
LOCATION								
PROPORTION OF ETHNIC MINORITIES	.51							
SOCIO-ECON LEVEL	- .43	- .06						
QUESTION #1	- .04	- .04	- .07	.04				
QUESTION #2	- .09	- .09	- .01	- .03	.51			
QUESTION #6a	.06	.10	.06	.06	.06	.04		
QUESTION #6b	.05	.10	- .08	.06	.05	.07	.78	

Exhibit I.4

Mean ratings and rankings from the present study compared with results obtained by Wickman in 1926 and Hunter in 1955

356 Teachers (1971)* (RMRRC)	308 Teachers (1955)** (Hunter)	511 Teachers (Wickma
1. Inattention (3.38)	1. Stealing	1. Stealing
2. Tattling (3.34)	2. Destroying school materials	2. Obscene notes
3. Quarrelsome (3.24)	3. Truancy	3. Unthruthfulne
4. Cruelty, bullying (3.22)	4. Cruelty, bullying	4. Truancy
5. Interrupting (3.10)	5.5. Unhappy, depressed	5. Impertinence,
6. Carelessness in work (3.09)	5.5. Impertinence, defiance	6. Cruelty, bull
7. Attracting attention (3.08)	7. Untruthfulness	7. Cheating
8. Laziness (2.90)	8. Unreliableness	8. Destroying sc
9. Restlessness (2.88)	9. Disobedience	9. Disobedience
10. Disorderliness in class (2.86)	10. Resentfulness	10. Unreliablenes
11. Impudence, rudeness (2.83)	11. Impudence, rudeness	11. Temper tantru
12. Domineering (2.82)	12. Lack of interest in work	12. Lack of inter
13. Thoughtlessness (2.81)	13. Quarrelsomeness	13. Profanity
14.5 Easily discouraged (2.77)	14.5 Easily discouraged	14.5 Impudence, ru
14.5 Cheating (2.77)	14.5 Cheating	14.5 Laziness
16. Dreaminess (day dream) (2.76)	16. Carelessness in work	16. Smoking

Exhibit I.4

Mean ratings and rankings from the present study compared with results obtained by Wickman in 1926 and Hunter in 1955

ers (1971)* RC)	308 Teachers (1955)** (Hunter)	511 Teachers (1926)** (Wickman)
n (3.38)	1. Stealing	1. Stealing
3.34)	2. Destroying school materials	2. Obscene notes, talk
e (3.24)	3. Truancy	3. Unthruthfulness
ullying (3.22)	4. Cruelty, bullying	4. Truancy
ng (3.10)	5.5. Unhappy, depressed	5. Impertinence, defiance
ss in work (3.09)	5.5. Impertinence, defiance	6. Cruelty, bullying
attention (3.08)	7. Untruthfulness	7. Cheating
2.90)	8. Unreliableness	8. Destroying school materials
ss (2.88)	9. Disobedience	9. Disobedience
ness in 6)	10. Resentfulness	10. Unreliableness
rudeness (2.83)	11. Impudence, rudeness	11. Temper tantrums
g (2.82)	12. Lack of interest in work	12. Lack of interest in work
sness (2.81)	13. Quarrelsomeness	13. Profanity
couraged (2.77)	14.5 Easily discouraged	14.5 Impudence, rudeness
2.77)	14.5 Cheating	14.5 Laziness
) (2.76)	16. Carelessness in work	16. Smoking

356 Teachers (1971)* (RMRRC)	308 Teachers (1955)** (Hunter)	511 Teach (Wick
17. Overcritical of others (2.74)	17. Temper tantrums	17. Enuresis
18. Sensitiveness (2.70)	19. Unsocial, withdrawing	18.5 Nervousnes
19. Unreliableness (2.65)	19. Selfishness	18.5 Disorderli
20.5 Untruthfulness (2.64)	19. Laziness	20.5 Unhappy, d
20.5 Lack of interest in school (2.64)	21.5 Disorderliness in class	20.5 Easily dis
22. Impertinence, defiance (2.62)	21.5 Obscene notes, talk	22.5 Selfishnes
24. Suggestible (2.61)	23. Suggestible	22.5 Carelessne
24. Disobedience (2.61)	24. Domineering	24. Inattenti
24. Stealing (2.61)	25.5 Inattention	25. Quarrelsom
26. Tardiness (2.60)	25.5 Nervousness	26. Suggestib
27. Destroying school property (2.47)	27. Profanity	27. Resentful
28. Stubbornness (2.51)	28. Fearfulness	28. Tardiness
29. Profanity (2.45)	29.5 Sullenness	29. Physical
30.5 Selfishness (2.44)	29.5 Attracting attention	30.5 Stubbornn
30.5 Slovenly in appearance (2.44)	31. Stubbornness	30.5 Domineeri
32. Nervousness (2.41)	32.5 Overcritical of others	32. Slovenly
33. Sullenness (2.37)	32.5 Physical cowardice	33. Sullennes

eachers (1971)* RMRRC)	308 Teachers (1955)** (Hunter)	511 Teachers (1926)** (Wickman)
tical of (2.74)	17. Temper tantrums	17. Enuresis
lveness (2.70)	19. Unsocial, withdrawing	18.5 Nervousness
ableness (2.65)	19. Selfishness	18.5 Disorderliness in class
nfulness (2.64)	19. Laziness	20.5 Unhappy, depressed
f interest ool (2.64)	21.5 Disorderliness in class	20.5 Easily discouraged
inence, ce (2.62)	21.5 Obscene notes, talk	22.5 Selfishness
tible (2.61)	23. Suggestible	22.5 Carelessness in work
dience (2.61)	24. Domineering	24. Inattention
ng (2.61)	25.5 Inattention	25. Quarrelsomeness
ess (2.60)	25.5 Nervousness	26. Suggestible
ying school ty (2.47)	27. Profanity	27. Resentfulness
rnness (2.51)	28. Fearfulness	28. Tardiness
lty (2.45)	29.5 Sullenness	29. Physical cowardice
hness (2.44)	29.5 Attracting attention	30.5 Stubbornness
ly in appearance (2.44)	31. Stubbornness	30.5 Domineering
sness (2.41)	32.5 Overcritical of others	32. Slovenly in appearance
ness (2.37)	32.5 Physical cowardice	33. Sullenness

	356 Teachers (1971)* (RMRRC)		308 Teachers (1955)** (Hunter)		511 Teach (Wick
34.5	Unhappy, depressed (2.31)	35.	Thoughtlessness	34.	Fearfulnes
34.5	Whispering (2.31)	35.	Tardiness	35.	Suspicious
36.5	Imaginatively lying (2.29)	35.	Slovenly in appearance	36.	Thoughtles
36.5	Resentfulness (2.29)	37.	Sensitiveness	37.	Attracting
38.	Obscene notes, talk (2.26)	38.5	Shyness	38.5	Unsocial,
39.	Shyness (2.20)	38.5	Suspiciousness	38.5	Dreaminess
40.	Inquisitiveness (2.16)	40.	Enuresis	40.	Imaginativ
41.5	Temper tantrums (2.15)	41.	Interrupting	41.5	Interrupti
41.5	Unsocial, withdrawing (2.15)	42.5	Inquisitiveness	41.5	Inquisitiv
43.	Suspiciousness (2.14)	42.5	Dreaminess	43.	Overcritic
44.	Fearfulness (2.07)	44.	Restlessness	44.5	Tattling
45.	Physical coward (1.97)	45.	Tattling	44.5	Whispering
46.	Enuresis (1.79)	46.	Imaginative lying	46.	Sensitiven
47.	Truancy (1.70)	47.	Smoking	47.	Restlessne
48.	Smoking (1.37)	48.	Whispering	48.	Shyness

* Items were rated on a scale from 1 (Not a problem) to 6 (A severe problem).

** Two items, masturbation and heterosexual activity, were dropped from the list f purposes. All items on this list were originally rated on a 20-point scale--he not comparable with the present study.

achers (1971)* MRRC)	308 Teachers (1955)** (Hunter)	511 Teachers (1926)** (Wickman)
, depressed (2.31)	35. Thoughtlessness	34. Fearfulness
ing (2.31)	35. Tardiness	35. Suspiciousness
tively lying (2.29)	35. Slovenly in appearance	36. Thoughtlessness
ulness (2.29)	37. Sensitiveness	37. Attracting attention
notes, talk (2.26)	38.5 Shyness	38.5 Unsocial, withdrawing
(2.20)	38.5 Suspiciousness	38.5 Dreaminess
tiveness (2.16)	40. Enuresis	40. Imaginative lying
tantrums (2.15)	41. Interrupting	41.5 Interrupting
l, withdrawing (2.15)	42.5 Inquisitiveness	41.5 Inquisitiveness
ousness (2.14)	42.5 Dreaminess	43. Overcritical of others
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(1.37)	48. Whispering	48. Shyness

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Appendix J

Observation of Teacher Behaviors For Use in Student Placement

Observation of Teacher Behaviors For Use in Student Placement[1]

Frances R. Schwaninger

Working Paper No. 4

May, 1972

ROCKY MOUNTAIN REGIONAL RESOURCE CENTER

DEPARTMENT OF SPECIAL EDUCATION

UNIVERSITY OF UTAH

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These papers are intended primarily as informal communications to, and among members of the RMRRC staff and faculty of the Department of Special Education. The materials contained herein are generally not in final stages of refinement and are not to be cited without the author's permission.

OBSERVATION OF TEACHER BEHAVIORS FOR USE IN STUDENT PLACEMENT

Placement of handicapped children has become a paramount problem in school districts where special classrooms are limited. Identification of characteristics of teachers who appear to have succeeded in integrating exceptional children into a regular classroom would be useful data for other placements of handicapped children. In an attempt to develop behavioral profiles of teacher characteristics and/or classroom milieu for more effective placement procedures, the RMRRC trained a cadre of observers to observe and rate elementary classrooms for qualities that appear basic in facilitating interaction and education, and which are supported in the literature.

Measurement of such qualities has long presented a problem to those interested in defining variables involved in affective levels of behavior. Written measures demand more expressive ability than is usually found among elementary students, and are too reactive to be considered valid indices of feeling. Teacher reports are too biased by their own involvement, and are often rightfully considered an imposition on the teacher's already limited time. It follows that observation by a trained, impartial judge would lend a solution to the definition of salient teacher qualities and their effect on students.

There is considerable support in the literature for the use of such observers in the classroom to record the teacher variables most influential on students. One line of research in particular which has been directed toward the educational setting is that based on the theory of perceptual systems and cognitive functioning proposed by Harvey, Hunt, and Schroeder (1961).

Central to this theory is the assumption that an individual's predisposition to interpret highly ego-involving events in a predictable manner determines his reactions to those events. Those individuals who function in what is termed a "concrete" manner, have a limited repertoire of interpretations of such events, and therefore a limited repertoire of reactions. This limitation results in a dependence on traditional forms of behavior, and adherence to established rules of conduct, a general need for structure, and a lack of spontaneity and novelty when faced with a new and/or ambiguous set of events. Those individuals whose functioning could be termed "abstract" have developed their repertoire of interpretations and reactions through exploration of their environments. These individuals react to new events by responding to the immediately relevant cues of the environment with less dependence on already established expectations or predisposed ideas of appropriate behavior. This results in behavior which is generally more open, novel, spontaneous, and less rigid than concrete persons.

The position of a person on the continuum of concreteness-abstractness is represented most readily by the expression of a certain consistent pattern of beliefs which is representative of a certain mode of cognitive functioning. These patterns of belief are called "belief systems," and formal methods of scoring these belief systems have been developed.

Two studies in particular which focus on teacher beliefs and their measurement (Harvey, White, Prather, Alter, and Hoffmeister, 1966; Harvey, Prather, White, and Hoffmeister, 1968) relate directly to the present attempt to observe teacher effect on student behavior and classroom atmosphere.

In the 1966 study, headstart teachers of different belief systems were rated by observers on 26 dimensions assumed to reflect educationally desirable or undesirable behaviors toward students. These dimensions were such things as: expression of warmth toward children, perceptiveness of children's wishes and needs, flexibility in meeting needs and interests of children, ability to maintain relaxed relationships with children, attention to individual children, encouragement of free expression of feelings, diversity of activity simultaneously permitted, rule orientation, etc. On all dimensions, teachers who had belief systems which were more abstract differed from those who were concrete in what is presumed to be a more educationally favorable direction.

The 1968 study provided a replication of the teacher observation and added the observation of student behavior on a number of dimensions such as adherence to teacher rules, information seeking, independence, cooperativeness with the teacher, enthusiasm, voluntary participation in classroom activities, free expression of feelings, student-initiated activity, amount of interaction with classmates, novelty of response to teacher's questions, etc. This study again demonstrated that classification of teachers according to belief systems resulted in significant differences in classroom behaviors on the part of students in the same direction as the first study. The 1968 research further demonstrated that significant differences in student response could be shown when analyzed according to either the global teacher belief system designation or the ratings of overt teacher behavior. Both sets of data yielded three main factor clusters from the analysis of teacher behaviors. These clusters were called resourcefulness, dictatorialness, and punitiveness.

This evidence of teacher effect is in line with other information describing the development of belief systems and cognitive functioning. Parent-child relations, as antecedents to conceptual functioning, were reviewed by Catherine Felknor and O.J. Harvey (1968). Their findings largely supported the theoretical predictions that antecedent conditions of restrictiveness, control, and punitiveness tend to produce concrete functioning individuals, whereas conditions high in fairness, freedom of exploration, independence, warmth, and approval allow the development of more abstract cognitive functioning. Such conditions have an obvious relation to the development of the child on the affective level as well as the purely cognitive, although the two are interrelated in reality, if not in scientific research.

With such research providing the theoretical and practical foundation, it was decided to focus on this observational scale developed by Harvey and White for the definition of variables leading to better teacher-student matching. Also influencing the decision was the information that one of the school districts with which the RMRRC was to be involved had available on each teacher two measures of concreteness-abstractness used in other research on this theory. It seemed advantageous to RMRRC goals to determine if particular systems of teachers as identified by these tests could tolerate and facilitate the education of different handicapped children more effectively than other systems. For example, some emotionally disturbed children might benefit from a structured environment with stable limits set by a concrete teacher. Or some mentally retarded children might best be placed with a warm, open, abstract teacher who would encourage exploration of the environment. Such placement would enhance the success of the recent trends toward serving the needs of handicapped students in the regular classroom. If observation of overt teacher practices identified the different strategies of classroom management, then specific effects on handicapped students could be recorded in a later research program and complete data for the process of matching could be obtained. With this goal in mind, the training of observers and the subsequent observation of classrooms was undertaken.

METHOD

Subjects

One-hundred-and-eleven elementary teachers from Tooele School District participated in the study. They agreed to being classified according to belief system on the written measures of the TIB and CST (see below), and to serving as target-teachers for classroom observation on the teacher-rating scale. If scores on all measures correlated, it was then planned that they would serve as pilot subjects for matching of teachers and students to facilitate interaction on the affective level.

Instruments

Measures of Concreteness-Abstractness of Belief Systems. These measures served as the criteria to which the observation ratings were compared for final testing of apparent validity, after acceptable interrater reliability was achieved.

The first measure was the This I Believe Test (TIB), an open-ended essay test specifically designed to measure the general cognitive property of concreteness-abstractness. The subject is required to express his beliefs about a number of referents. Then relativism, tautology of thinking, novelty, richness of connotation, cynicism, openness, and other relevant dimensions are scored by trained judges, and each subject is given a system designation which represents either concrete or abstract functioning. Inter-judge reliability for three and four trained judges scoring the TIB ranges from .85 to .95 over several years of testing (Reed, 1971). Validity has been demonstrated in over two dozen studies (Harvey, 1966).

An objective measure, the Conceptual Systems Test (CST), which reveals an individual profile on six relevant content dimensions was also employed. Each S receives a score on the dimensions of Divine Fate Control, Need for Structure and Order, Need to Help People, Need for People (socially), Inter-personal Agression, and General Distrust. These profiles were thought to provide greater variance for the purposes of correlation with the observation scale ratings than the single system designation provided by the TIB.

Teacher Observation Rating Scale. This scale was a further modification by Harvey and White of those scales referred to earlier (1966; 1968). It consisted of 33 items which are rated on a six-point scale ranging from -3 to +3. These 33 categories were explained and discussed repeatedly during the training sessions. Assumptions which guided the use of this scale were the same as those reported in the Coates, Harvey and White refinement of scales (1970). It was first assumed that the validity of observations of such complex behavior as teaching would be enhanced by the use of nonliteral, nondiscrete categories of behavior, which required some inference on the part of the observer. It was expected that responses which would be meaningless in isolation could be interpreted in context as meaningful parts of an ongoing process. It was further assumed that categories derived from a theoretically coherent rationale, together with the context of the total classroom setting, would provide more predictably reliable and valid ratings of classroom behavior and lend direction to the interpretation of results.

Training of Observers

Training of 11 women was undertaken by O. J. Harvey and B. J. White, who served as consultants to the project during this period. After defining the behavior categories operationally, Drs. Harvey and White supervised the rating and discussion of a number of video tapes of actual classroom performances of teachers of different belief systems. This allowed for free interaction between trainees and observers concerning specific areas, and replay of any behavior sections about which there was interrater disagreement. After two full days of video tape training, interrater reliability was assessed by comparing the observer ratings with the known systems (unknown to the observers) of the taped teachers. When ratings correlated .60 or higher, the second phase of training was initiated wherein observers were exposed (as a group) to live classroom situations at the Utah State Industrial School. Further discussion and reliability checks resulted in correlations of .80 and above. Four observers were dropped at this point for failure to maintain consistent reliability. The remaining observers (who maintained the reliability of .80 or above) were paired on a rotating basis and allowed to observe all elementary teachers in the Tooele School District. (See schedule at the end of this report.) One group reliability check was taken half-way through the paired observations to check for concept drift, and high reliability was found to have been maintained. Paired observations were then continued for the categorization of the subject sample of teachers.

Procedure

The 111 classrooms were observed in 13 working days. Six of the seven observers who had maintained high reliability were rotated into different paired combinations daily with one observer on call (see discussion). Interrater reliability was checked on the 7th and 12th days, and the weighted mean correlations between every pair of judges were .880 and .715 respectively. Three or four teacher observations of 45-60 minutes were completed in a day by each pair. Rater sheets were scored after the observation. Observers had no information as to TIB or CST classifications of the teachers prior to the observations.

RESULTS AND DISCUSSION

The results of the cluster analysis (Tryon and Bailey, 1966) yielded the same two factors of Fostering Exploration (FE) and Dictatorialness (D) as were found in the replication and refinement of observational scales carried out by Coates, Harvey and White (1970). However, the correlation matrix indicated no significant relationships between any of the predictor variables from the CST dimensions and the observer rating clusters of FE and D. This indicates a consistency of observer ratings with previous ratings by observers using this scale as far as conceptualization of categories, but a lack of validity concerning the immediate phenomena observed.

This was disappointing as it precluded the use of this data for selection and matching of teachers and students, and it was difficult to ascertain why this occurred. Two possible reasons which together or separately could have accounted for the results were explored.

The first hypothesized explanation was the lack of variance among teacher profiles in the CST and system designations on the TIB. Of the 350 teachers measured in Tooele District, only six showed no concreteness of functioning. All other teachers were scored as having at least a mixture of concrete-abstract belief systems if not totally concrete. Of the 111 teachers observed, only one showed no concreteness. This could mean that the statistical variance required for the generation of decent correlations was absent. It was highly suspected that this fact largely accounted for the absence of significant correlations.

Another explanation offered represented a possible problem with the raters. Although raters had achieved high interrater reliability, it is possible that they were heavily influenced by similar global judgments that had little to do with accurate judging of the phenomenon and resulted in a common bias away from accuracy.

Certain training conditions resulting from the inexperience of the RMRRC staff in dealing with reliability assessment procedures make this second explanation fairly plausible. Although no observer saw the same teacher twice, each pair saw a prolonged series of concrete-functioning teachers due to the nonexistence of abstract teachers. Pairs of observers were rotated daily, but each pair spent an entire day together, which might have resulted in mutual conceptual drift of pairs. Furthermore, all observers were going to lunch together, and discussion of rating categories and scores had a high probability of occurrence, which would lead to possible common error. Especially since raters' sheets were scored after rather than during observation, the global effect of such discussion would be made more influential. There was also a problem in that some of the teachers observed during the formal observation period had been previously observed during the training period; the influence of this mistake in planning cannot clearly be defined.

In a post-hoc analysis, an attempt was made to determine whether observers had discriminated finer differentiations among teacher profiles on the CST within concrete systems. A profile high on Inter-personal Aggression and General Distrust while low on Need for People and Need to Help People was termed a "cold" system. A profile showing the exact reverse trend was termed a "warm" system. It was found that warm and cold systems fell into different ranges on the observer cluster of FE and D, but the results were again nonsignificant. Cold systems showed a range beginning and ending higher on the dimension of D than did warm systems, whereas warm systems fell into a range beginning and ending higher on the dimension of FE than did cold systems.

These data, though nonsignificant, suggest that the observers could have been fairly accurate in their rating of the phenomenon.

Consequently the prime reason hypothesized for the absence of significant matrix correlations was the lack of gross variance among teacher profiles.

It was decided that though the use of observers trained in a single measurement scale would be discontinued, the idea of observers as a method of measurement would be retained for further consideration. In crder to avoid the recurrence of such lack of variance in the phenomenon to be observed, a proposal was initiated to add additional specific skills as well as other global traits from other theoretical bases to the affective research program. From this decision sprung the affective research thrust for the coming year.

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OPINION SURVEY

Name________________________ Date____________________

Position____________________

INSTRUCTIONS

In the following pages you will be asked to write your opinions or beliefs about several topics. Please write at least three (3) sentences about each topic. You will be timed on each topic at a pace that will make it necessary for you to work rapidly.

Be sure to write what you genuinely believe.

You must write on the topics in the order of their presentation. Wait to turn each page until the person in charge gives the signal. Once you have turned a page, do NOT turn back to it.

PLEASE DO NOT OPEN THIS BOOKLET UNTIL YOU ARE INSTRUCTED TO BEGIN.

(Note: in the usual administration of this test, the following statements each appear on a separate half-sheet of paper.)

This I believe about the American way of life.

This I believe about compromise.

This I believe about faith.

This I believe about religion.

This I believe about punishment.

This I believe about friendship.

This I believe about marriage.

This I believe about people on welfare.

This I believe about immorality.

This I believe about delinquents.

PERSONAL OPINION SCALE

Form GTD (166)

The following is a study of what the general public thinks and feels about a number of important social and personal questions. The best answer to each statement below is your personal opinion. The survey covers many different topics--you may find yourself agreeing strongly with some statements, disagreeing just as strongly with others, and perhaps uncertain about others. Try to work as fast as possible. Since we are interested in your first impressions, there is no need to spend much time on any statement. We would like to have you answer each question but you may skip any that you really don't want to answer for personal reasons.

DIRECTIONS: You are to decide how much you agree or disagree with each of the following statements. Circle the number on the separate answer sheet that best describes how strongly you agree or disagree with the statement. The meaning of the numbers on the answer sheet is as follows:

+3 = agree very much
+2 = agree moderately
+1 = agree a little
-1 = disagree a little
-2 = disagree moderately
-3 = disagree very much

PLEASE CIRCLE ONLY ONE NUMBER FOR EACH STATEMENT.

Personal Opinion Scale

1. I think I have more friends than most people I know.
2. Contributing to human welfare is the most satisfying human endeavor.
3. I feel like blaming others when things go wrong for me.
4. I like to meet new people.
5. No man can be fully successful in life without belief or faith in divine guidance.
6. I feel like telling other people off when I disagree with them.
7. More and more I feel helpless in the face of what's happening in the world.
8. I like to help my friends when they are in trouble.
9. I always like for other people to tell me their problems.
10. I like to criticize people who are in a position of authority.
11. I like to show a great deal of affection toward my friends.
12. I feel at home with almost everyone and like to participate in what they are doing.
13. In the final analysis events in the world will ultimately be in line with the master plan of God.
14. The dictates of one's religion should be followed with trusting faith.
15. I like to keep my letters, bills, and other papers neatly arranged and filed according to some system.
16. It hurts me when anybody is angry at me.
17. Most people can still be depended upon to come through in a pinch.
18. I am always the last one to leave a party.
19. Most public officials are really interested in the poor man's problems.

20. I like to join clubs or social groups.

21. Any written work that I do I like to have precise, neat and well organized.

22. It is safest to assume that all people have a vicious streak and it will come out when they are given a chance.

23. I like to have my meals organized and a definite time set aside for eating.

24. I like to do things with my friends rather than by myself.

25. I like to have a place for everything and everything in its place.

26. I enjoy very much being a part of a group.

27. Religion is best viewed as a social institution.

28. Most people in public office are really interested in the problems of the poor man.

29. There is no excuse for lying to someone else.

30. I like to help other people who are less fortunate than I am.

31. I like to have my life so arranged that it runs smoothly and without much change in my plans.

32. I like my friends to confide in me and to tell me their troubles.

33. I like to have my work organized and planned before beginning it.

34. Government officials are as interested in serving the poor as others.

35. I enjoy making sacrifices for the sake of the happiness of others.

36. I feel like making fun of people who do things that I regard as stupid.

37. Sin is but a cultural concept built by man.

38. I like to keep my things neat and orderly on my desk or work-space.

39. I prefer to do things alone, rather than with my friends.

40. I prefer clear-cut fiction over involved plots.

41. Honesty is the best policy in all cases.

42. I think I am stricter about right and wrong than most people.

43. I believe that to attain my goals it is only necessary for me to live as God would have me live.

44. I prefer a story that has two themes rather than one that has five or six themes going at once.

45. I find that a well-ordered mode of life with regular hours is suitable to my personality.

46. I like to form new friendships.

47. These days a person doesn't really know whom he can count on.

48. There are some things which God will never permit man to know.

49. Politicians have to bribe people.

50. I like to start conversations.

51. I feel like getting revenge when someone has insulted me.

52. I am a very sociable person who gets along easily with nearly everyone.

53. I like to treat other people with kindness and sympathy.

54. All in all, it is better to be humble and honest than to be important and dishonest.

55. I don't like to work on a problem unless there is a possibility of coming out with a clear-cut answer.

56. I like to sympathize with my friends when they are hurt or sick.

57. I don't like for things to be uncertain and unpredictable.

58. You sometimes can't help wondering whether anything's worthwhile anymore.

59. I like to plan and organize the details of any work I undertake.

60. The way to peace in the world is through religion.

61. Most people who get ahead in the world lead clean, moral lives.

62. Guilt results from violation of God's law.

63. Anyone who completely trusts anyone else is asking for trouble.

64. I like to give lots of parties.

65. One should take action only when sure it is morally right.

66. Marriage is the divine institution for the glorification of God.

67. I like to make as many friends as I can.

March 15, 1971

TEACHER RATING SCALE

1.	Warmth	-3	-2	-1	1	2	3
2.	Perceptiveness	-3	-2	-1	1	2	3
3.	Flexibility	-3	-2	-1	1	2	3
4.	Involvement	-3	-2	-1	1	2	3
5.	Attention to and concern for the individual	-3	-2	-1	1	2	3
6.	Enjoyment	-3	-2	-1	1	2	3
7.	Enlistment of child participation	-3	-2	-1	1	2	3
8.	Encourage individual self-reliance or individual judgment	-3	-2	-1	1	2	3
9.	Allows expression of feeling	-3	-2	-1	1	2	3
10.	Encourage creativity-diversity	-3	-2	-1	1	2	3
11.	Teach concepts-(concept approach vs. factual approach)	-3	-2	-1	1	2	3
12.	Ingenuity	-3	-2	-1	1	2	3
13.	Multiplicity of themes or approaches to concepts	-3	-2	-1	1	2	3
14.	Use of nonfunctional rules	-3	-2	-1	1	2	3
15.	Needless dictation of procedural detail	-3	-2	-1	1	2	3
16.	Personal need for structure - reacts negatively to diversity	-3	-2	-1	1	2	3
17.	Punitiveness	-3	-2	-1	1	2	3
18.	Fairness	-3	-2	-1	1	2	3
19.	Encourages questioning	-3	-2	-1	1	2	3
20.	Respect for student's ideas or opinions	-3	-2	-1	1	2	3
21.	Emphasizes student-teacher role and status distinctions	-3	-2	-1	1	2	3
22.	Phoniness (insecurity)	-3	-2	-1	1	2	3
23.	Patience	-3	-2	-1	1	2	3
24.	Classroom command	-3	-2	-1	1	2	3

25. Solicitousness (entreaty) -3 -2 -1 1 2 3

26. Allows expression of disagreement without rancor -3 -2 -1 1 2 3

Motivates by:

27. Affection -3 -2 -1 1 2 3

28. Providing information or functional explanation -3 -2 -1 1 2 3

29. Rejection -3 -2 -1 1 2 3

30. Threat or fear induction -3 -2 -1 1 2 3

31. Embarrassment -3 -2 -1 1 2 3

32. Use of praise -3 -2 -1 1 2 3

33. Criticism -3 -2 -1 1 2 3

March 16, 1971

1.	Warmth	
2.	Perceptiveness	Sensitivity; awareness of needs and wishes of kids though not necessarily able to change situation.
3.	Flexibility	Ability to change quickly; ease and speed of transition to capitalize or incorporate diverse information into continuing direction; ability to change set.
4.	Involvement	Not anxiety; task involvement--concern--trying to solve a problem--task set.
5.	Attention to and concern for the individual	No teacher's pets; differential response; recognizing individuality.
6.	Enjoyment	Get a big kick out of teaching.
7.	Enlistment of child in participation	Voluntary; not coerced
8.	Encourage individual self-reliance or individual judgment	Encourage to question, define, pursue own interest; opposite of structure seeking by student.
9.	Allows expression of feeling	Wide variety of feeling (purposeful feeling); teacher reinforced or supported.
10.	Encourage creativity-diversity	Look out for high homogeniety; watch for diversity in answers and products; can be verbal.
11.	Teach concepts - (concept approach vs. factual approach)	Opposite of rote explanation of "why".
12.	Ingenuity	Improvising (play-class) materials and using them; can improvise with verbal concepts as well.

13.	Multiplicity of themes or approaches to concepts	
14.	Use of nonfunctional rules	Explanations like "because that's the way we do things around here"; meaningless reasons.
15.	Needless dictation of procedural detail	
16.	Personal need for structure	(Reliance upon rules) Degree to which rules are enforced; frequency--whether verbalized or not--low tolerance for ambiguity; rules used because teacher needs them, not because structure requires.
17.	Punitiveness	Verbal as well as physical; sarcasm would be an example of verbal.
18.	Fairness	
19.	Encourages questioning	
20.	Respect for student ideas or opinions	
21.	Emphasizes student-teacher role and status distinctions	
22.	Phoniness (insecurity)	
23.	Patience	
24.	Classroom command	
25.	Solicitousness (entreaty)	
26.	Allows expression of disagreement without rancor	No ill-will or spite toward child.

Rocky Mountain Regional Resource Center
710 East Second South, 3-G
Salt Lake City, Utah 84102
322-6281

To: Tooele School District

From: Judy Buffmire

Date: March 17, 1971

Re: Observers in Elementary Classrooms in Tooele School District

The Rocky Mountain Resource Center is attempting to collect data relevant to placement of stratisticians in school districts in the fall of 1971. Tooele District has a paper-and-pencil measure on the system of most teachers in the district; however, there is no behavioral measure to indicate if the paper-and-pencil classification is valid in distinguishing classroom behaviors, or if there are differences within systems. We at the Resource Center are most interested in comparing the ways in which teachers of different systems handle problem children in their classrooms. We feel that this data will be useful to Tooele District as a behavioral reference to compare with paper-and-pencil data. The collection of data on the affective methods different teachers employ with problem children will be useful to the Resource Center in developing strategies to work with handicapped children in the regular classroom.

ROCKY MOUNTAIN RESOURCE CENTER
710 East Second South, 3-G
Salt Lake City, Utah 84102
322-6281

Date: April 19, 1971

Subject: Observers' schedules, April 15 to May 3, Tooele School District

01. Rita Patton
787 East 4255 South
Salt Lake City, Utah 84107
266-2888

02. Donna Gough
2059 Sahara Drive
Salt Lake City, Utah 84117
278-3187

03. Gerry Ure
4369 Camille Drive
Salt Lake City, Utah 84117
277-3932

04. Patty Johnson
1800 East 3990 South
Salt Lake City, Utah 84117
278-1055

05. Ilene McKenna
4938 Naniloa Drive
Salt Lake City, Utah 84117
278-8703

06. Peggy Nelson
4265 Camille Drive
Salt Lake City, Utah 84117
277-9545

07. Pat White
2541 Skyline Drive
Salt Lake City, Utah 84108
484-3986

The above dates have been established by the Tooele District. Some days it may not be possible to observe four teachers; one may be ill; there may be other events scheduled which interfere with the school schedule; you may simply be unable to handle four observations. It is important to stay within the days designated by the district, however. If you are unable to work on a scheduled day, please arrange to trade with the unassigned observer.

OBSERVERS	TEACHER	TEACHER NUMBER
April 15, East Elementary School, 135 South Seventh, Tooele James R. Gowans, Principal		
	George B. Applegate	26
	Lucy H. Bauer	27
	Illa J. Bigelow	28
	Dorothy H. Egelune	29
	Helen B. Mortensen	30
	Connie J. Murphy	31
	Mary A. Nielson	32
	Gaye Pesout	33
	Kathryn D. Wilson	34

OBSERVERS	TEACHER	TEACHER NUMBER
April 16th, Sterling R. Harris Elementary, 251 North First Street, Tooele. Donald R. Lindsay, Principal		
04/07	Dean S. Aldous	35
	Carolyn Bodrero	36
	Albert R. Arellano	37
	Nancy Belliston	38
02/03/05	Kaye P. Horrocks	39
	George N. Erickson	40
	Thomas M. Irvine	41
	Linda Baumgarten	42
April 19th, Sterling R. Harris Elementary		
01/03	Maxine Hullinger	43
	Grace Jackson	44
	Beverly S. Jensen	45
	Garrett Sorenson	46
05/06	Eloisa Martinez	47
	Venice Munro	48
	Carolyn Musgrave	49
	Leila H. Stewart	50
04/07	Nola Neilson	51
	Carolyn Pickering	52
	Bonnie J. Rimington	53
	Geraldine E. Sagers	54
April 20th, Sterling R. Harris Elementary		
04/01	Geraldine B. Sagers	55
	Kathryn J. Shelby	56
	Dahlia S. Webster	57
02/03	Zelma J. Kelly	58
	Ilene D. Hatton	59
	Mary H. Fillmore	60
April 21st, Tooele Central, 55 North First West St., Tooele Bernett Baldwin, Principal		
01/05	Bernadette Arellano	61
	Susan D. Bennion	62
	Ora Lyn Bridges	63

April 21st (continued)

04/02	Bonnie B. Berry	64
	Byron V. Brunson	65
	Clara H. Chang	66
07/06	Carolee B. Colovich	67
	Sylvia Ann Child	68
	Susan Z. Dandrea	69

April 22nd, Tooele Central

06/01	Carla Cook	70
	Karen L. Cox	71
	Florence T. Evans	72
05/02	Marie D. Dickerson	73
	Marcene May Gaylen	74
	Patricia P. Hanks	75
04/03	Evelyn G. Jankovich	76
	Dorothy A. House	77
	Hanora H. Long	78

April 23, East Elementary, 135 South Seventh, Tooele

All	Jessie Powers	79

Tooele Central

07/01/04	Mildred M. Millburn	80
	Edwina F. Mohler	81
06/02	Mary St. Clair	82
	Eladrin P. Traver	83
03/05	Elaine T. Wilkinson	84
	Calvin D. Wilson	85

April 26th, Dugway Elementary School, Building 5000, Dugway, Utah
Kenneth S. Rupp, Principal

07/02	Candice M. Benoit	86
	Pauline Burton	87
	Jacqueline P. Kendall	88
06/03	Leola K. Clarke	89
	Dawn J. Perch	90
	Margaret P. Lacy	91

April 26th (continued)

05/04	Jacqueline Leppart	92
	Stella T. Cozza	93
	Eloise W. Griffith	94

April 27th, Dugway Elementary

02/01	Evelyn E. Harris	95
	Virginia S. McBride	96
	Sharon Shepherd	97
06/04	Fawn P. Madsen	98
	John J. Southwick	99
	Boyd W. Stevens	100

April 28th, Grantsville Elementary School, 175 W. Main St. Grantsville
LaVar J. Hansen, Principal

03/01	Thelma S. Anderson	101
	Gary L. Callister	102
	Cleo Carson	103
	Leona W. Charles	104
07/04	Marrium T. Croom	105
	Diane R. Hunsaker	106
	Mary Lou Jeffries	107
	Clara F. Jeppson	108
06/05	Ronald Johnson	109
	Barbara T. Jones	110
	Gloria C. Lloyd	111
	Beatrice L. Markham	112

April 29th, Grantsville Elementary

04/01	Ruth C. Matthews	113
	Sunny Mae Miller	114
	Irene W. Millward	115
03/02	Berkley C. Orr	116
	Carol Petty	117
	Sherry L. Repscher	118
07/05	Lowell S. Watson	119
	Mary Ann Whitehead	120
	Marilyn T. Worthington	121

April 30th, West Elementary School, 440 S. 400 West St., Tooele, Ut.
John Rex Shepherd, Principal

05/01	Elmo Kay Barton	122
	Georgena Beardall	123
	Milo C. Berry	124
04/02	Alice S. Bevan	125
	Arita L. Blanchard	126
	Margaret M. Castagno	127
07/06	Nellie M. Castagno	128
	L.C. Cummings	129
	Lawrence M. Downey	130

May 3rd, West Elementary

06/02	June B. Gillette	131
	Ilene B. Hatton	59
	Dora C. Jacobs	132
04/03	Mauna Phillips	133
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	Gwenevere A. Stookey	135

Appendix K

Bibliography on Affect-Interaction-Communication

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Appendix L

Affective Study on Student Teachers in Special Education

AFFECTIVE STUDY ON STUDENT TEACHERS
IN SPECIAL EDUCATION[1]

Frances Schwaninger-Morse

David C. Bradford

Working Paper No. 9

November, 1973

ROCKY MOUNTAIN REGIONAL RESOURCE CENTER

DEPARTMENT OF SPECIAL EDUCATION

UNIVERSITY OF UTAH

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Frances Schwaninger-Morse and David C. Bradford are both members of the Rocky Mountain Regional Resource Center (RMRRC) evaluation team.

These papers are intended primarily as informal communications to and among members of the RMRRC and faculty members of the Department of Special Education. The materials contained herein are generally not in final stages of refinement and are not to be cited without the authors' permission.

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Affective Study on Student Teachers in Special Education

by Frances Schwaninger-Morse
and David C. Bradford

INTRODUCTION

During the school year 1972-73, the Rocky Mountain Regional Resource Center (RMRRC) was involved in a search for variables influencing competencies in the affective area. It is readily apparent that in our school systems, as elsewhere, persons differ in their abilities to convey affective messages on both overt and covert levels, in the ability to read or perceive accurately those messages, and in the type of affective feeling they habitually display. These differences become very important when faced with the task of matching teachers and students, or in training teachers and other personnel who are increasingly obliged to deal with the "whole child." As resource people become involved with daily school operation, it also becomes more important for them to deal with other adults as "whole persons." It was intended that the finding of certain variables which seem to indicate different affective styles would be useful in the forthcoming year's training programs, both on the part of the RMRRC staff and of other interested institutions..

In its commitment to serve handicapped children on a "whole child" basis, that RMRRC has repeatedly posed questions whose answers lie at least partially in the affective domain. Among these are: What are the qualities that make a stratistician (teacher, resource person) effective? Can these qualities be taught? If they must be only selected, what is the best method of selection? What changes need to be made in pre- and in-service teacher training programs to produce teachers better able to deal with special education problems in and out of the regular classroom? On what dimensions could students and teachers be matched to facilitate interaction and maximize benefits for both? While some answers were being sought through data collection on the stratistician model and the Outreach programs, special emphasis on affective processes was maintained as a concentrated evaluation effort in order to focus more clearly on specific, definable parameters. The results of such concentration will hopefully support information gathered from other evaluation thrusts, and aid in interpreting and integrating the data collection of the program as a whole.

On the first page of the RMRRC Request for Third Year Funding, "affect" was introduced as one parameter of the general problem of inadequate services to handicapped children. Focusing on affect will hopefully help insure that the development of new models described in that proposal will indeed proceed on a wide front, rather than depend on traditional, more easily measurable academic or achievement-oriented goals. On the second page, the proposal stated that a reconceptualization of special education services is needed, and that a thorough study of student-teacher interactions and processes be projected. In general, resource people, staff members of pre-service and in-service training programs, and trainees themselves, overhwhelmingly agree that affect is an area where information and definition are crucially needed, yet are easily avoided.

In contrast to the emphasis on language skills apparent in the public school system, an absence of explicit instruction on covert, affective communication skills is evident. Many persons can neither conceal nor express feelings to their own satisfaction. This inability leads to misperception in reading imperfectly concealed or expressed feelings in others--a sad state of affairs when one notes that "the central ingredient in the psychotherapeutic process (whether clinical or educational) appears to be the ability to perceive and communicate accurately, and with sensitivity, the feelings of another and the meaning of those feelings (Truax and Mitchell, 1971)." Inability to effectively communicate has led to serious social consequences, among which are pervasive feelings of loneliness, alienation, and sterility in interpersonal relationships. It seems likely that disruptive behavior in the classroom may be an attempt to compensate for lack of effective communication in more constructive ways.

Preliminary inroads have been made into the area of instruction in affect by such interaction training programs as Thomas Gordon's Parent Effectiveness Training (1970) and Norma Randolph's Self Enhancing Education (1968), among others. Although these programs represent helpful beginnings in improving interpersonal interaction, they are still only beginnings. Many persons still find themselves bewilderingly unable to consistently utilize such tools. For such people, and even for those who are moderately successful, resource persons must be ready with an "advanced course" in communication training. They must be prepared to look at the diversity of styles in which such tools may be used. For instance, subtle nuances of expression can change the simple phrase, "Good morning," from a greeting to a warning. Mehrabian (1972) has estimated from research in communication "channels" that 7% of a person's communication is expressed verbally, 38% extraverbally (voice tone, pauses, inflection, etc.), and 55% by facial and body gestures. A person able to help others integrate covert and overt channels would be a very valuable resource. Indeed, greater awareness of such covert, affective levels of interaction may, by itself, be a catalytic factor in making regular as well as special education more effective. Hopefully, by becoming aware of implicit affective extraverbal and nonverbal communications, teachers and students will grow more adept as using them, thus creating an atmosphere more conducive to everyone's personal development.

This initial research effort explored only a few of the questions dealing with affect. It was an attempt to delineate the most elementary dimensions along which persons could be differentiated relating to their affective communication styles.

Attention was focused on three broad research questions: (1) What is the description of a sample of student teachers in terms of specific affective constructs? (2) Can relatively stable factors of variables be identified by which we can describe the affective domain in teaching of the handicapped? (3) Can we identify easily measurable factors which are involved in the biasing or distortion of affective communication, either in sending or in receiving, and their role in determining a person's initial impact on others? Systematic evaluation of even basic factors such as these has only recently begun.

The particular factors and constructs chosen for study resulted from assumptions common in recent research in communication theory. They are: (1) All persons send messages on the affective level either through their behavior or their nonbehavior. Messages in both modes are interpreted. (2) Relationships evolve according to the way people affect each other through their message-giving behavior. They confirm or disconfirm each other's feelings of mastery and self-worth. The feelings accompanying the confirmation or disconfirmation of self are the basic elements in the operation of what we have called affect. (3) These feelings subsequently determine one's expectations with regard to further interactions with others, determine his bias to perceive others in a certain way (e.g., positively or suspiciously), and determine the manner in which he chooses to convey his messages (e.g., passive-aggressively or straightforwardly). (4) Biases toward certain styles of sending and perceiving messages further influence the person's entire experience of relationship and development, thus truly affecting the "whole person." As investigators of self-esteem have noted, such a process is usually circular: persons who habitually perceive messages as negative (whether they are or not) tend to send negative messages, which in turn cause others to send back genuinely negative messages, and the cycle goes on.

If a person is to interrupt or take voluntary control of such destructive communication cycles he must have (1) feedback as to what messages are being predominantly perceived by others from his behavioral cues, and (2) recognition of the way he distorts communication input from others. (This second requirement is quite complex as it involves private desires, disappointments, and angers, which are often not admitted even to oneself.) The types of measures selected for this study were intended to provide the tools to meet both requirements.

METHOD

Instruments

Instruments were selected from the communication research literature which provided: (1) data on attitudes and preferences which seem to determine the bias involved in interpretation of incoming and outgoing messages; and (2) data on the feelings elicited in an observer by a subject.

A rather large test battery was employed, in order to avoid the pitfalls of the previous observation study (Working Paper #4) wherein only one measurement device was used and was found not to discriminate among the subjects. Within the battery, an attempt was made to select measures of complex attitude constellations relating directly to behavior biases, as determined by previous research. A number of test methods were selected, representing five important theoretical orientations. Types of measures were: direct self-report from open-ended essay response; direct, but objective questions concerning specific feelings in specific situations; indirect, objective questions of a general, philosophical nature; and written verbal-behavior skill tests.

The first written measure was the This I Believe test (TIB). The test was developed from the conceptual systems and personality organization theory of O. G. Harvey, David Hunt, and Harold Schroeder (1961). This theory integrates a number of complex attitudinal and behavioral predilections into categories or "systems" by which people may be differentiated. The test is based on a person's response to novel stimuli in his environment and his reaction to threat. It is postulated that a person in any given system interprets or construes ego-involving stimuli in consistent ways. These ways of constructing arrange themselves along two dimensions, the first being dependence/independence/interdependence, and the second, abstractness/concreteness. As an example of the contrasts, concrete behavior is characterized by polarized judgments; dependence on social cues relating to role, status, and authority; inability to change set; and high need for structure and rule orientation. These attitudes result in behavior which discourages others from taking individual responsibility, lead to indirectness in communication, and other similar situationally specified patterns. Abstract behavior, conversely, is typified as more flexible, more relevant to evaluation of possibilities and alternatives on their own merits rather than with regard to social consequences, more task-oriented, more "open" to novel stimuli, with communication styles being more interpretive and clarifying than evasive or judgmental.

The second body of research represented is related to the first. Bob Burton Brown, in The Experimental Mind in Education (1968), likewise hypothesizes a continuum much like the above. He terms the dimension "experimentalism vs. non-experimentalism." His "experimental" person is similar to Harvey's abstract person in an opposition to fixed, unchanging principles of belief and conduct, in the active development of ongoing alternative hypotheses, deliberate introduction of change into the environment, and emphasis on curiosity, growth, and mastery, rather than structure, status quo, and self-protection. Behaviorally, the experimental person (teacher, in Brown's studies) differs from the nonexperimental in specific ways. Examples of differences are: providing students with many options rather than a set schedule, allowing students to direct their own activity and focus on their own problems, rather than relying solely on the teacher for such direction, encouraging students to venture "over their heads" rather than trying to fit everyone into the same mold, changing plans in response to feedback rather than trying to force new events to fit a pre-established schedule.

Brown's work, however, goes one step farther into the complex interdependence between belief and behavior. Although the stage of one's "experimentalism in thinking" is an important influence in its own right, it is also important that one behave congruently with one's thinking. This emphasis on genuineness and congruence leads further into the area of communication. Brown gathers evidence to show that a gap between the experimentalism shown in personal beliefs and the degree of experimentalism one displays in public leads to more disruptive and ineffective interaction than merely a lack of experimentalism in both areas. Two measures were borrowed from this research: Personal Beliefs (PB) and Teacher's Practices (TP).

Logical extensions of the implications of Brown's work led to the choice of the third theoretical area: self-disclosure (Jourard, 1971). If, as Brown postulates, the disruptive factor in large "belief gap" victims is the inability to express and operate on their actual beliefs for fear of public disapproval, then these persons should be less willing to disclose themselves than highly congruent persons. Jourard's questionnaires, Disclosure to Best Friend (DBF) and Disclosure to Casual Acquaintance (DCA), indicate to what extent a person has revealed personal experiences to another with regard to various, sometimes "touchy" topics. It was expected that high self-disclosure would correlate with the experimentalism and abstractness measures to form a factor indicating general openness.

The fourth area of assessment included several tests of simple verbal skill (Taylor, Ghiselin, and Yagi, 1967). Though they represent factors of verbal fluency and flexibility, their relationship to patterns of belief or behavior have not been well researched. These measures were included on the reasonable assumption in much of education that a teacher's effectiveness depends more on his verbal ability than on his affective style.

Lastly, measures developed as a direct consequence of nonverbal behavior research were included. It was expected that these measures would correlate most closely with the results of the observation scales, since they were developed from the same research. The tests are Affiliation Tendency, Empathetic Tendency, and Sensitivity to Rejection (Mehrabian, 1972).

The observation rating scale used was not a traditional recording of discrete behavior units in code form, but an attempt to rate the feeling induced in the rater by observing the subject. The semantic differential scale used by Mehrabian (1972) was adopted and expanded slightly. A few bi-polar constructs drawn from the written measures were included to determine how well they correlate with their counterparts in the other two methods of assessment. The value of this assessment technique lies in the fact that raters are not asked to "decode" (interpret) what the target person intends by his communication, but simply to record the impact of the subject's messages upon himself as an outside observer. Raters were trained only for consensus in terminology and constructs to be used for recording the impact, the target areas to be observed (e.g., head, body, voice), and the methodological rituals to be observed (e.g., timing, order of presentation, etc.). This is reported in the procedure section.

In experiments of this type, raters are considered representative of the "naive observer" rather than as experts in the behavioral sciences. It is postulated that the naive observer responds to others on the basis of subjective, internal norms--a sort of personal average of situations that have occurred previously. Averages such as these form the basis for psychological stereotypes, and stereotypes frequently serve as reference points for evaluating new people.

It has been shown that such psychological stereotypes or personal averages are relatively consistent within a culture and influence the interaction between strangers. An understanding of the stereotype one evokes in another person should better enable one to predict how that person will respond in turn. Stereotypic expectations with respect to a new person serve to determine communication patterns in all first encounters.

With increased interpersonal contact, the stereotype may become less important in determing the pattern of the interaction, but its importance in the initial stages of a relationship should not be minimized. Situations such as applying for a job or making contact with the parents of a student are good examples of situations where first impressions are important, and prior expectations powerful. This research paradigm is designed to enable consideration of stereotypes as whole units, but not to make possible an analysis of the components of individual stereotypes.

It was expected that nonverbal ratings would reveal meaningful differences in the behavior of student teachers with their handicapped students. Mehrabian (1972)discusses numerous studies which indicate that verbal or explicit coding of messages (especially negative ones) is strictly controlled by social approval; because of this, implicit channels are used to transmit the socially disapproved components. However, patterns of encoding on different nonverbal channels vary among people according to their consistency, intensity, and congruency, thus making interpretation of nonverbal cues a difficult task that often yields incorrect and inconsistent results. The effects of many specific behavioral cues on the observer have been investigated. For example, it has been found that a person has more eye contact with one he likes than with one he dislikes; generally more eye contact is perceived as more positive (up to a point); moderately direct shoulder orientation indicates intense liking; very indirect shoulder orientation indicates intense disliking; backward lean of the torso decreases as liking increases; smaller distances indicate more positive interpersonal attitudes. It was hoped that by narrowing observation to more specific cues that have been consistently found to be important in previous research, and by averaging responses of several raters, that consistent patterns of nonverbal affective behaviors could be identified and their relationship to written tests evaluated.

Reliability (primarily test-retest) for all measures selected ranges from .78 to .95, which was considered acceptably high. More extensive information regarding reliability is available in the published material for each measure described.

Subjects

Subjects (Ss) in all cases were volunteers from the students enrolled in the Department of Special Education, University of Utah. Thirty-two students in their first year of training volunteered to participate in pilot testing of the instruments; 11 of them completed the battery. Six students who were doing early (Winter quarter) student teaching were requested to participate in additional testing in order to help familiarize the researchers with the student-teaching situation. In the actual study, all students enrolled for student teaching during Spring quarter were requested to participate as part of the teaching experience. Forty-six of them did so, but the few with strong objections were allowed alternatives to fulfill course requirements. Of the 46 Ss, only 28 participated in the video taping. Objections by parents, cooperating teachers, or school districts made video taping of the remainder impossible. Seven school districts in the Salt Lake City, Provo and Ogden areas cooperated in the study, with only one district failing to respond to the request for taping permission.

Procedure

The study was preceded by two pilot testing sessions. Pilot Session 1 was designed to investigate the written measures, and Pilot Session 2, the observation scales.

First Pilot: During Autumn quarter, 1972, volunteers were recruited from first-year special education students. Thirty-two volunteers took a battery of written tests during a series of arranged group-testing sessions. From the results of these tests, it was determined whether or not a meaningful range of scores could be discriminated by these measures. In addition, some measures were found to be superfluous, others too lengthy or too unpleasant for the subjects. Those which appeared to have discriminatory power and were practical were selected for use in the study.

At this time it was also decided that using volunteers was too costly and undependable since only 11 Ss completed all tests in the battery. Arrangements were then made with the Department of Special Education to include participation in the affective research as part of the regular student-teaching experience, with individual feedback to be provided as a service from the RMRRC.

Second Pilot: During Winter quarter, the selected written measures were administered, in the same group format and the same test order, to a class of six student teachers in the area of mental retardation. After an initial "settling" period, these six subjects were observed repeatedly in their classroom settings. During such observation periods, decisions were made about the kinds of observation techniques to be used, the number and selection of variables to be included, and extraneous, environmental peculiarities which might need to be considered during the actual study.

Recording technique: It was decided to video tape the interaction of student teachers in a one-to-one tutoring situation with a handicapped pupil. This insured that raters would receive similar stimuli for each S. Students teachers were given feedback later as they watched a replay of their own behavior and were given the chance to judge how representative they felt the videotaped sample was. A side benefit for the RMRRC was the creation of a tape library for futuwe use in classes, in-service workshops, etc.

Behavioral sample: The choice of variables to be rated proved more difficult. Interaction scales (such as Ober, Flanders, etc.) from the field of education were either too extensive in terms of overall classroom behavior, or insufficient with respect to affective communication. It was finally decided, after much experimentation, to adopt an affective rating scale in a semantic differential format from social psychology (Mehrabian, 1972). This allowed behavioral styles to be evaluated with regard to the specific affective responses engendered in the observer (see discussion under Instruments). Mehrabian and his colleagues have reported extensively on the interpretation (decoding) of affective messages in multi-dimensional, nonverbal behaviors. His work provided a basis for relating the interpretations of complex communications of feelings such as "warmth" to already charted patterns of behavior.

The decision to video tape students in a one-to-one setting rather than in a group interaction was made to simplify the stimulus as much as possible and still maintain a real-life, relevant situation. It was felt that the everyday teaching interaction should be used to provide the spontaneous covert clues for observation, since that was the context to which we wished to generalize the findings. Therefore, no artificial conflicts or other circumstances were deliberately staged, other than the video taping itself. Although it is likely that merely being video taped changes behavior to some extent, and that different persons react differently to that kind of observation, attempts to circumvent those problems by covert recording were both technologically and ethically impossible.

Actual Study: During Spring quarter, the written measures were administered to 46 special education students who were participating in student teaching that quarter. Presentation of the program was made to a joint meeting of students and cooperating teachers. Individual appointments were then made for a video-taping session in their classrooms. Reminder phone calls were made to each S one week in advance of the appointment. Each student was instructed to prepare an individual tutoring task lasting from fifteen minutes to one-half hour. They were requested to have two students prepared in case one did not come to class. They were further asked to get parental releases for each pupil who would be taped; release forms were provided through their student-teaching coordinators. Twenty-eight student teachers were able to participate in the taping.

Video taping: Taping procedures in the classroom were as follows: experimenter greeted student teacher and pupil while the cameraman set up the equipment; environmental restrictions on the tutoring setting were explained (the camera must face away from the window, bodies of both teacher and pupil must be visible from at least the waist up, the faces of both persons must be oriented toward the camera as much as possible, that is, in a side-by-side seating arrangement). It was explained that the camera would be turned on before the signal was given to enter the setting, then teacher and student should enter and proceed with task as naturally as possible until signal was given to stop--about 20 minutes later. After taping, both student teacher and pupil were offered the opportunity to review the tape immediately through a play-back system built into the camera.

During this period, both student and student teacher were informally questioned as to their feelings and stress level during the taping, their goals for the tutoring session, and the nature of the referral or handicapping condition, age, and grade level of the pupil. This information was filed along with the parental release for future investigation as independent variables.

Observer selection and training: A list of volunteers for observation of tapes had been compiled by solicitation at the special education student advisory committee meeting during Winter quarter. The first 6 observers who were available for the arranged viewing times were hired. They were then individually trained in a two-hour training session by the experimenter. The semantic differential scale was reviewed and meanings attributed to each bi-polar set of adjectives were presented and discussed until consensus was reached. The two training tapes were observed and agreement with the experimenter was checked. After obtaining satisfactory agreement, the observer then was instructed in viewing procedures, a copy of which follows:

1) Start all tapes at number 100 and watch a five-minute segment. The timer should be set for five minutes as the tape machine is turned to the "forward" position. Watch this five-minute segment three times, starting each time at number 100; first two viewings without sound; last viewing with sound but without picture.

2) Scale I: Facial. First, read through the list of adjective pairs until you are familiar with them. Then view the specified tape segment with picture and no sound. Concentrate your eyes on the facial area only. Lastly, go straight through the scale, marking your affective impression. Do not go back to change ratings.

3) Scale II: Gestures. First read through the list of adjective pairs until you are familiar with them. Then view the specified tape segment with picture and no sound. Concentrate your eyes on just the lower body, the torso, from the neck down only. Lastly, go straight through the scale, marking your affective impression. Do not go back to change ratings.

4) Scale III: Vocalization. First, read through the list of adjective pairs until you are familiar with them. Then view the specified tape segment with sound and no picture. Concentrate on the voice. Lastly go straight through the scale, marking your affective impression. Do not go back to change ratings.

5) Scale IV: General Impression. No further viewing of the tape is necessary for this rating. Take a two-minute break

before filling out the rating scale, sitting quietly and letting your impression form. Do not discuss any ratings with other observers. You are relying on the overall feeling you received from viewing the visual and auditory fragments, and it does not matter which, if either, influenced you the most. Just trust your general impression. Then go through the scale marking your impression. Do not change ratings.

Further Reminders:

a) Trust your immediate personal feelings. Don't try to "fix" answers to be logical or consistent with previous answers.

b) Remember to compare each pair of words to each other, not to what you would think to be the correct antonym of the word.

c) Watch the person, not the task being performed.

d) Respond to what actually happened on the tape, not to what you imagine "should" be happening.

e) If you feel that you are becoming bored because you've seen it all before, you are not watching specific areas. You should see completely different stimuli during the first and second viewing. Concentrate on the specifics that the section is asking for, and don't rely on memory from a previous viewing.

f) Mark at the bottom of the first sheet if you know the person being viewed or if you have seen them teach before.

Observers completed the viewing of the tapes, each in a different random order, and reliability estimates were computed. Because of extreme differences in cultural background, training, and degree of experience with the teacher-pupil context, one observer was dropped before reliability was checked.

Inter-rater reliability was computed by dividing the average covariance among the raters by their average variance. As a result of those figures, the decision was made to use an average rating for the five observers. The reliability estimates for each scale are as follows:

	Single Rater	Average of 5 Raters*
Scale I (facial expression)	.41	.78
Scale II (body gestures)	.24	.61
Scale III (vocalization)	.44	.80
Scale IV (general)	.23	.60

*Computed by Spearman-Brown coefficient.

RESULTS AND DISCUSSION

Results were analyzed in three sections. The first to be presented here are results of the written measures considered to be descriptive tools only. The total subject sample of 46 student teachers was described in terms of group means and standard deviations; comparisons were made to known standards where possible. Comparisons between sub-areas of special education were made, addressing the question of whether different "types" of students (according to these measures) were drawn to different areas. These data were analyzed primarily for their value to department area coordinators and those people specifically interested in issues related to selection of students.

Tangentially, this descriptive data proved useful as feedback to individual students. A number of subjects were shown their individual profiles on this battery of tests and reported the feedback to be both enlightening and encouraging. (See figure 4.)

First Analysis: The "average" student teacher in special education was described from these measures as: high in affiliation tendency; average in sensitivity to rejection; high in empathy; more open about disclosing intimate personal information to close friends than the average; not willing to disclose more than the normal amount of personal information to casual acquaintances; and feeling a much lesser degree of conflict between the amount of experimentalism (openness) they experience in their personal lives and that which they feel is needed in the classroom. One-third of the sample tended toward the abstract end of the continuum on the TIB, whereas only one-fifth of most samples studied tend toward the abstract.

The data are presented in the matrix in figure 1. The averages are especially interesting when compared to the means recorded in original research on the measures. Mehrabian (1972) reported a mean affiliation tendency among his subjects of 30, with a standard deviation (SD) of 23 (RMRRC figures: 48.85; 24.16); the mean empathetic tendency was 41, with SD of 26 (RMRRC:

48.84 ; 23.98); the mean sensitivity to rejection was comparable, -6, with SD of 23 (RMRRC figures: -6.59: 20.85). As stated above, the special education University of Utah student teachers were somewhat more empathetic and affiliative than the averages. Bob Burton Brown's (1968) averages on belief gap scores of teacher groups ranged from 40 to 100, showing a much higher degree of conflict between personal beliefs and beliefs dealing specifically with teacher practices than do our figures. In Jourard's research on self-disclosure, an individual score above 25 on the Best Friend measure was considered as a "high discloser"; 67% of this sample had scores of 25 or greater.

Unfortunately, data on the scales dealing with verbal usage from prior research have been ambiguous and difficult to interpret, so no useful comparisons were available.

There were no statistically significant differences among the various specialty areas of special education, although there were some provocative trends that may prove to be important in later research. For example, on the basis of those data, it appears student teachers in the behavioral disorder area are the least sensitive to rejection, teachers of the deaf are most sensitive, and teachers in the field of mental retardation are most empathetic. Teachers in the learning disability area seem to display more skill on the verbal measures, which seems logical since they deal more directly with language skills. It may be that some sort of "matching" between teachers and students is occurring spontaneously, either in the process of specialty area selection or as a result of actual classroom or teaching experience. The subtle matching could certainly be made more efficient if the relevant matching dimensions were specified and understood. (See figures 2 and 3.)

Second Analysis: Preliminary to the factor analysis section, where such specification was attempted, a correlation matrix of the text data for all 46 Ss was completed (table 1). A few correlations higher than .37 (approximate sig. level for α=.01 and df=44) appear in the matrix. These were as follows:

1)	CW(I) - CW(Tot)	.72
2)	Affil - Emp	.49
3)	Simil - CW(Tot)	.49
4)	P B - T P	.46
5)	Topics- CW(Tot)	.43
6)	T P - WA	.39
7)	WA - CW(I)	.39
8)	S-R - P	.38

It is apparent that correlations 1, 3, 5, and 7 were between measures of verbal fluency which reduced to a single factor in the later analysis. With such test correlations, it might be feasible in future research to administer only one of the fluency tests instead of four. The remaining correlations (2, 4, 6, 8) indicated more complex factor groupings, as well as a probable component of method correlation on 2 and 4. According to later factor groupings and predictive abilities of the test, it was decided that the test for teacher practices could be eliminated for future economy.

Factor analysis allows a relatively clear, parsimonious description of the relationship in a set of variables. This kind of "data distillation" may be very useful in relating variables to the theoretical constructs that empirical factors appear to represent.

In an attempt to reduce the number of variables to a manageable number of dimensions, six separate factor analyses were performed, one including only the written test measures, an analysis of each of the observation scales, and a second-order analysis of the observation scale factors taken all together. All factoring was done by the principal component technique (University of Utah Computer Center Program FACTOR) and in all of the analyses, factors with an eigenvalue greater than 1.0 underwent varimax rotation. Additional technical information regarding the analyses can be obtained from the authors at the RMRRC.

The correlation matrices (with communalities in the diagonals) and the rotated factor matrices for all of the analyses can be found in tables 1-12 at the end of the report.

The relationship between a variable (e.g., a test) and a factor is expressed as a correlation, commonly called a loading. The square of the loading is the proportion of variance that the variable and the factor have in common. Obviously, the higher a variable correlates with a factor, the more important it is in an interpretation of what the factor "means." In the tables that follow, only variables with loading of .40 or greater are included.

Description of Factors Extracted: Test data factors. The first factor extracted from the analysis of written measures seems related to verbal ability on the behavioral tests of verbal fluency.

Written Test Measures
Factor I: Ability to Associate

item		
3)	Topics	.60
4)	Similarities	.55
2)	Compound Words (I)	.84
1)	Compound Words (Total)	.89

Compound words (total) is a measure of verbal output for a given time period. Compound words (I) is a measure of flexibility. The remaining two tests are also measures of ability to make verbal associations, hence the name of the factor, Ability to Associate.

Factor II of the test data was more important in terms of affect, but also more difficult to interpret.

Written Test Measures
Factor II: High Experimentalism

Personal Beliefs	.79
Sensitivity to Rejection	-.71
Word Associations	.56
Teacher Practices	.49

This factor seems to relate to the work of Bob Burton Brown mentioned earlier, and was designated as High Experimentalism.

Factor III was derived from the grouping of tests of Affiliation Tendency, Empathy, and Teacher Practices. The predominant construct may be called Person Orientation.

Written Test Measures
Factor III: Person Orientation

Affiliation Tendency	.85
Empathy	.73
Teacher Practices	.44

The last two factors seem to be essentially specific factors. Factor IV is related most strongly to Disclosure to Casual Acquaintance and may be termed Superficial Openness.

Written Test Measures
Factor IV: Superficial Openness

Disclosure to Casual Acquaintance	.86
Similarities	.46

By way of contrast, the last factor seems to be a measure of Non-Superficial Openness.

Written Test Measures
Factor V: Non-Superficial Openness

Disclosure to Best Friend	.83
Topics	-.51

Observation data factors, Scale I: Facial Expressiveness. The first factor extracted from table 1 seems to describe a person who is relaxed, genuine, warm, responsive, stimulated, encouraging, curious, congruent, involved, expectant, consistent, interested and intense. This description may be thought to express Interpersonal Responsiveness.

Observation Scale I
Factor I: Interpersonal Responsiveness

Feelings about Face

item		
1)	relaxed - (bored)	.85
2)	genuine -(artifical)	.88
3)	(distant) - warm	.79
4)	responsive - (dull)	.73
5)	stimulated - (relaxed)	.74
6)	(foreboding) - encouraging	.73
13)	(approval-oriented) - curious	.62
14)	congruent - (misleading)	.81
15)	intense - (bored)	.90
16)	(phoney) - involved	.84
17)	(calm) - expectant	.65
18)	consistent - (inconsistent)	.70
19)	involved - (self-conscious)	.60

Eye Contact

23)	(ritualistic) - interested	.65

Observation

24)	expectant - (bored)	.83
25)	interested - (self-conscious)	.82

The second factor extracted from Scale I emphasized the qualities of appearing dominant, controlling, influencing, important, and parent-like. It was called the Dominance factor.

Observation Scale I
Factor II: Dominance

Feelings About Face

item		
7)	dominant - (unsure)	.79
8)	controlling - (controlled)	.78

continued

9)	(influenced) - influencing	.86
10)	important - (unsure)	.50
11)	(guided) - autonomous	.83
12)	parent-like - (child-like)	.56

The third factor was drawn mainly from eye contact, which was frequent, direct, steady, and interested, with head nodding. This was labeled Facial Engagement.

Observation Scale I
Factor III: Facial Engagement

Eye Contact

item		
20)	frequent - (absent)	.75
21)	(fleeting) - direct	.92
22)	steady - (quick)	.85
23)	(ritualistic) - interested	.57

Head Nodding (+)

26)	often - (none)	.53

The remaining factors seemed to express qualities subsumed under high experimentalism in the previous section, Calmness, Poise/Self-Confidence, and Appropriateness of Head Gestures.

Observation Scale I
Factor IV: Calmness

Feelings About Face

item		
12)	parent-like - (child-like)	.58
17)	calm - (expectant)	.48

Head Shaking (-)

28)	(often) - none	.69

Observation Scale I
Factor V: Poise or Self-Confidence

Feelings About Face

item		
7)	dominant - (unsure)	.43
10)	important - (unsure)	.77
19)	involved - (self-conscious)	.66

Observation Scale I
Factor VI: Appropriateness of Head Gestures

Head Nodding (+)

item		
26)	often - (none)	.50
27)	appropriate - (random)	.79

Head Shaking (-)

29)	appropriate - (random)	.73

Observation data factors, Scale II: Body Gestures. The first factor on this scale grouped the responses of the observers to target behavior which included: touching, which was frequent, appropriate, genuine, adequate, and effective; distance of teacher from the pupil, which was close, appropriate, warm, and facilitating; a concerned, possibly over-protective degree of leaning forward; and an open, involved, relaxed, moving body orientation. This was termed Open, Warm Involvement.

Observation Scale II
Factor I: Open, Warm Involvement

Touching

item		
1)	appropriate - (inappropriate)	.79
2)	(none) - much	.71
3)	genuine - (stilted)	.85
4)	(skimpy) - adequate	.84
5)	effective - (ineffective)	.88

Distance

6)	close - (distant)	.75
7)	appropriate - (uncomfortable)	.83
8)	(cool) - warm	.92
9)	facilitating - (disruptive)	.87

Degree of Leaning

10)	smothering - (self-protective)	.56
11)	concerned - (manipulative)	.67

continued

Orientation

item		
13)	*open* - (closed)	.77
14)	(avoiding) - *involved*	.82
15)	*moving* - (stiff)	.77
16)	*relaxed* - (uptight)	.79

Hand Relaxation

20)	*manipulating* - (still)	.81

Trunk Swivel

23)	*often* - (none)	.69

The second factor consisted of judgments that the subject was self-protective and rather rigid as to distance, degree of leaning, and head position. It was called a *Body Tension* factor.

Observation Scale II
Factor II: Body Tension

Distance

item		
6)	(close) - *distant*	.48

Degree of Leaning

10)	(smothering) - *self-protective*	.65

Neck Relaxation

21)	(head supported) - *not supported*	.83
22)	(angled) - *straight*	.77

The last factors seem to express familiar constructs. They are *Patience*, *Relaxation*, and *Casualness*.

Observation Scale II
Factor III: Patience

Touching

item		
2)	*none* - (much)	.54
4)	*skimpy* - (adequate)	.45

continued

Degree of Leaning		
item		
12)	*patient* - (pushy)	.92

Observation Scale II
Factor IV: Relaxation

Orientation		
item		
16)	*relaxed* - (uptight)	.42
Hand Relaxation		
19)	(tense) - *relaxed*	.91

Observation Scale II
Factor V: Casualness

Orientation		
item		
13)	*open* - (closed)	.43
15)	*moving* - (stiff)	.44
Relaxation : Arm Position		
17)	(symmetrical) - *asymmetrical*	.88
Relaxation: Body Position		
18)	(symmetrical) - *asymmetrical*	.81

Observation data factors, Scale III: Vocalizations. The vocal channel produced fewer factors than the other scales, possibly due to more experience on the part of the observers with attention to the voice, resulting in more accurate perception of vocal affect. The two factors, although labeled similarly, were orthogonal. That is, they do not correlate with each other. The first factor was called *Clear, Reinforcing Communication.* It described verbal-vocal messages which were: clear, reinforcing, helpful, enthusiastic, sympathetic, enjoying, positive, smooth, congruent, and straight.

Observation Scale III
Factor I: Clear, Reinforcing Communication

item		
4)	*clear* - (confusing)	.89
5)	*reinforcing* - (disruptive)	.95
6)	(unnecessary) - *helpful*	.92
7)	(mechanical) - *enthusiastic*	.86
8)	*sympathetic* - (important)	.76
9)	*enjoying* - (annoyed)	.88
10)	(negative) - *positive*	.92
11)	*smooth* - (halting)	.86
13)	(misleading) - *congruent*	.91
14)	*straight* - (double-messaged)	.91

The second factor described messages which were concise and short, called *Conciseness*.

Observation Scale III
Factor II: Conciseness

item		
1)	*short* - (long)	.89
2)	*choppy* - (drawn-out)	.66
3)	(overdone) - *insufficient*	.60
12)	(loud) - *soft*	.67
15)	(wordy) - *concise*	.84

Observation data factors, Scale IV: General Impression. After observing the visual and audio channels separately, the observers rated each subject as to overall impression. The factor analysis of these ratings produced general attitudes factors which resembled closely the first two factors drawn from each of the visual scales. As suspected, this implied that the visually encoded messages had more impact on the overall response than did the vocal channel, despite the fact that the vocal portion was the one most recently played back before making an overall rating.

The first factor may be described in the following terms: self-confident, patient, optimistic, flexible, task-oriented, congruent, effective, open, trusting, sensitive, empathetic, comfortable, likable, competent, attentive, and informal. The factor label chosen is *Likable Competence*. Since task-orientation and flexibility had the highest loadings, this factor was probably akin to that set of qualities embodied in System IV in Harvey's research--the most abstract functioning of his conceptual systems. The experimental-minded person in Brown's research would also possess the qualities contained in this factor.

Observation Scale IV
Factor I: Likable Competence

item		
2)	(approval-seeking) - self-confident	.61
4)	(demanding) - patient	.78
5)	(cynical) - optimistic	.79
6)	flexible - (rigid)	.86
7)	person-oriented - (task oriented)	.90
8)	(misleading) - congruent	.51
10)	(ineffective) - effective	.58
11)	open - (closed)	.61
12)	(suspicious) - trusting	.69
13)	(impervious) - sensitive	.67
14)	empathetic - (aloof)	.81
15)	(anxious) - comfortable	.58
16)	likable - (not very likable)	.67
17)	competent - (incompetent)	.61
18)	(inattentive) - attentive	.60
19)	(formal) - informal	.69

The second factor was predominantly composed of items that give the general impression of being directing, structured, confident, and formal. It was termed Directiveness, similar to Dominance on Scale I, though implying more activity.

Observation Scale IV
Factor II: Directiveness

item		
1)	structured - (unclear)	.54
2)	(approval seeking) - self-confident	.56
3)	directing - (loose)	.94
19)	formal - (informal)	.69

A person with a high score on Factor III might be considered structured, congruent, consistent, effective, open, trusting, sensitive, comfortable, likable, competent, and attentive. The factor may be called Congruent Openness.

Observation Scale IV, Factor III: Congruent Openness

1)	structured - (unclear)	.66
8)	(misleading) - congruent	.75
9)	consistent - (inconsistent)	.87
10)	(ineffective) - effective	.63
11)	open - (closed)	.67
12)	(suspicious) - trusting	.49
13)	(impervious) - sensitive	.56

continued

15)	(anxious) - comfortable	.68
16)	likable - (not very likable)	.56
17)	competent - (incompetent)	.57
18)	(inattentive) - attentive	.60

Second-order factor analysis. By factor analyzing the factor scores for all 28 subjects on each of the four observational scales, a second-order factor analysis was obtained. The analysis was done to explicate the relationship among the various scale factors. As can be seen from the tables below, the second-order factors are Responsiveness, accounting for 21% of the variance; Openness, accounting for another 15%; Dominance, adding 12%; Relaxation, with another 9% of the variance; Casualness, adding 8%; Confidence, with 7%; and Calmness responsible for 6%. The total variance accounted for by the seven second-order factors was 78%.

Factor Analysis of Scale Factors

Second-Order Factor I: Responsiveness

Scale I Factor I	Interpersonal Responsiveness	.85
Scale II Factor I	Open, Warm Involvement	.85
Scale III Factor I	Clear, Reinforcing Communication	.89
Scale IV Factor I	Likable and Competent	.62
Scale IV Factor III	Congruent and Open	.59

Second-Order Factor II: Openness

Scale I Factor III	Facial Engagement	.76
Scale II Factor III	Patience	.51
Scale III Factor II	Conciseness	.46
Scale IV Factor I	Likable Competence	-.48
Scale IV Factor II	Directing	.43

Second-Order Factor III: Dominance

Scale I Factor II	Dominance	-.74
Scale II Factor II	Body Tension	-.79
Scale IV Factor II	Directiveness	-.62

Second-Order Factor IV: Relaxation

Scale II Factor IV	Relaxation	.86
Scale IV Factor III	Congruent Openness	.66

Second-Order Factor V: Casualness

Scale I Factor VI	Appropriateness of Head Gestures	-.66
Scale II Factor V	Casualness	.76

Second Order Factor VI: Confidence

Scale I Factor V	Self-Confidence	.82
Scale III Factor II	Conciseness	-.63

Second-Order Factor VI: Calmness

Scale I Factor IV	Calmness	.92
Scale II Factor III	Patience	.51

The similarity of factors across scales implies that the affective variables which are consistently important in the response of one person to another are those dealing with: attentiveness or responsiveness to another; need to control the other; confidence, calmness, relaxation, casualness, or expression of positive feelings about the self. The complex relationships between these areas have been dealt with repeatedly in myriad theories of behavior. Our task here was to affirm or reaffirm the existence and operation of these variables in a relatively natural setting, based on a relatively natural affective response.

It was encouraging to find affective factors in response to a teaching situation which were so similar to factors found to be important in therapy and other "helping" roles: genuiness, accurate empathy, nonpossessive warmth (Truax and Mitchell, 1971) and the issue of interpersonal control of relationship (Haley, 1971.) According to research on such interperson skills in relation to the process and outcome of therapy, it has been shown that these affective areas of behavior can be brought under voluntary control. Affective skills can be taught because they, in themselves, are responses which can be modified by feedback. The first requirement mentioned in the introduction for voluntary control of affective style has been met: a technique for feedback as to what messages are being predominately perceived by others from one's behavioral cues.

Once it is accepted in teaching (as in other fields) that nonverbal cues are as important as verbal cues, specific changes in the institution can be initiated. The scope of changes implied and their relation to behavioral theories introduced at the beginning of this paper will be fully discussed in a second working paper, as a sequel to this study. For the present, we can only report on the degree of success in predicting from attitude constellations (bias) to nonverbal cues.

Third Analysis: Initially, it was intended to have area supervisors turn in rankings for each of the Ss. These rankings were to serve as additional criterion measures against which the predictive power of the test variables could be checked. These would represent the "affective style" of the S as judged by an official evaluator over a period of time. It was feared by some that one sample of video-taped behavior would be misleading, although there is research indicating that people habitually exhibit only a limited variety of affective communication styles across situations (Ekman, Friesen, and Ellsworth, 1972). Due to the pressures of the end of the school year, etc., not all rankings were obtainable, however, and could not be analyzed.

In the canonical analysis (which is roughly a factor analysis of two sets of variables rather than one set of variables) relationships were determined between patterns of test data and patterns of observation ratings. Such predicting from patterns to patterns is difficult to interpret, but logically more realistic than prediction from one variable. Certain strong trends did appear, revolving mostly around the issues of affiliation tendency, self-disclosure or openness, and experimentalism. Predictions are reported from measures of these traits only to the nonverbal areas of body gestures, vocalizations, and general impression. Statistical complications indicated the omission of Scale I, Facial Expressiveness.

Canonical Correlation Pattern I

DBF	.78	Closed Body Orientation	.95
CW (Tot)	.64	Infrequent Touching	.96
PB	.54	Genuine Touching	.88
		Involved	.81
Sim	-.81	Moving	.63
		Intense	.58
		Straight Neck Position	.50

One pattern emerging from the analysis seemed to describe the experimental or abstract person as explained in the introduction. High scores on measures of experimentalism (PB), disclosure to best friend (DBF), and flexibility (CW Tot), with a lower score on fluency (Sim) correlated with nonverbal cues of infrequent, but genuine touching; active, involved, but physically closed orientation; and straight head angle for listening, which is indicative of a symmetrical relationship rather than an approval-oriented or authoritarian one. In other words, a teacher who was fairly open, flexible, curious, unafraid of change, etc., would be expected to convey interest, involvement, genuineness, without necessarily using physical closeness. From the theoretical backgrounds provided by both Harvey and Brown, this would be expected.

Canonical Correlation Pattern 2

DBF	-.56	Sensitive	3.01
DCA	-.40	Aloof	2.26

continued

Comfortable	1.67
Closed	1.60
Trusting	1.28
Misleading	.99

Another pattern showed that a person who was low on self-disclosure to both best friend (DBF) and caual acquaintances (DCA) was seen overall as aloof and closed about themselves in general, and somewhat misleading, but still sensitive, comfortable, and trusting. This would not necessarily mean that a low-discloser was, in fact, sensitive, comfortable, and trusting.

Theoretically, Jourard might disagree. It does suggest that a lot of verbal output is not the only way to create a positive impact; that people tend to attribute such qualities to one who is relatively quiet. (This possibly stems from such folk culture as "silence is golden," or "still water runs deep.") Other hypotheses could follow the line of reasoning that low disclosers typically experience situations where they learn to behave in ways which are generally interpreted to be sensitive, comfortable and trusting. On the other hand, low disclosers might actually be more sensitive, comfortable and trusting, and therefore not as anxious to manipulate the environment verbally. Such causal relationships cannot be examined here. The most that can be said is--for whatever reason--low disclosers were seen in this way; or, conversely, people who were seen in this way were frequently low-disclosers.

Canonical Correlation Pattern 3

CW (I)	1.22	Inappropriate	3.01
DCA	.60	Disruptive	2.65
Sim	.53	Effective Touching	2.01
		Adequate Touching	1.88
DBF	-.55	Stiff	1.39
		Genuine Touching	1.26
		Manipulative	1.09

Contrast was provided by a third pattern, which indicated the corollary of the low-disclosure patterns. Those with high scores on disclosure to casual acquaintances (DCA), high verbal-fluency scores on two measures (CWI, Sim), but low disclosure to best friend (DBF) were rated as being able to use physical touch adequately, effectively and genuinely at times, but also using it disruptively, as well as using contextual cues of distance, body lean, orientation, and movement in an inappropriate, manipulative, stiff manner. This suggests some inconsistency in the ability to read environmental cues (possibly the "babbling brook" syndrome). It might possibly suggest, also, a homeostatic relationship between the verbal and nonverbal channels. Low verbal contact results in high nonverbal contact and vice versa; a purposeful inconsistency between messages on different communication channels might exist.

Canonical Correlation Pattern 4

DCA	.74	Not likable	1.34
Affil	.59	Directing	1.09
		Trusting	.76
CWI	-1.07	Rigid	.75
T Prac	-.55	Patient	.62
		Aloof	.61
		Misleading	.59

To complicate conclusions, a fourth pattern emerged, similar to the casual high-disclosure pattern just reported, but with the addition of high affiliation tendency (Affil), high fluency (Sim), low experimentalism (T Prac), low flexibility (CWI), and low disclosure to best friend (DBF). In this case, affective perceptions of the S were not at all clear, being described as patient, but rigid; trusting, but also aloof; especially directing, misleading, and unlikable. Apparently, too much glibness combined with the need to be accepted and low flexibility and experimentalism is a disastrous affective combination, resulting in much channel discrepancy and predominantly negative impact.

Canonical Correlation Pattern 5

DBF	.62	Enjoying Self	1.64
Affil	.61	Unnecessary Verbalization	1.19
		Disruptive Verbalizations	.98
Emp	-.67	Confusing Verbalizations	.53
		Negative Verbalizations	.53

Canonical Correlation Pattern 6

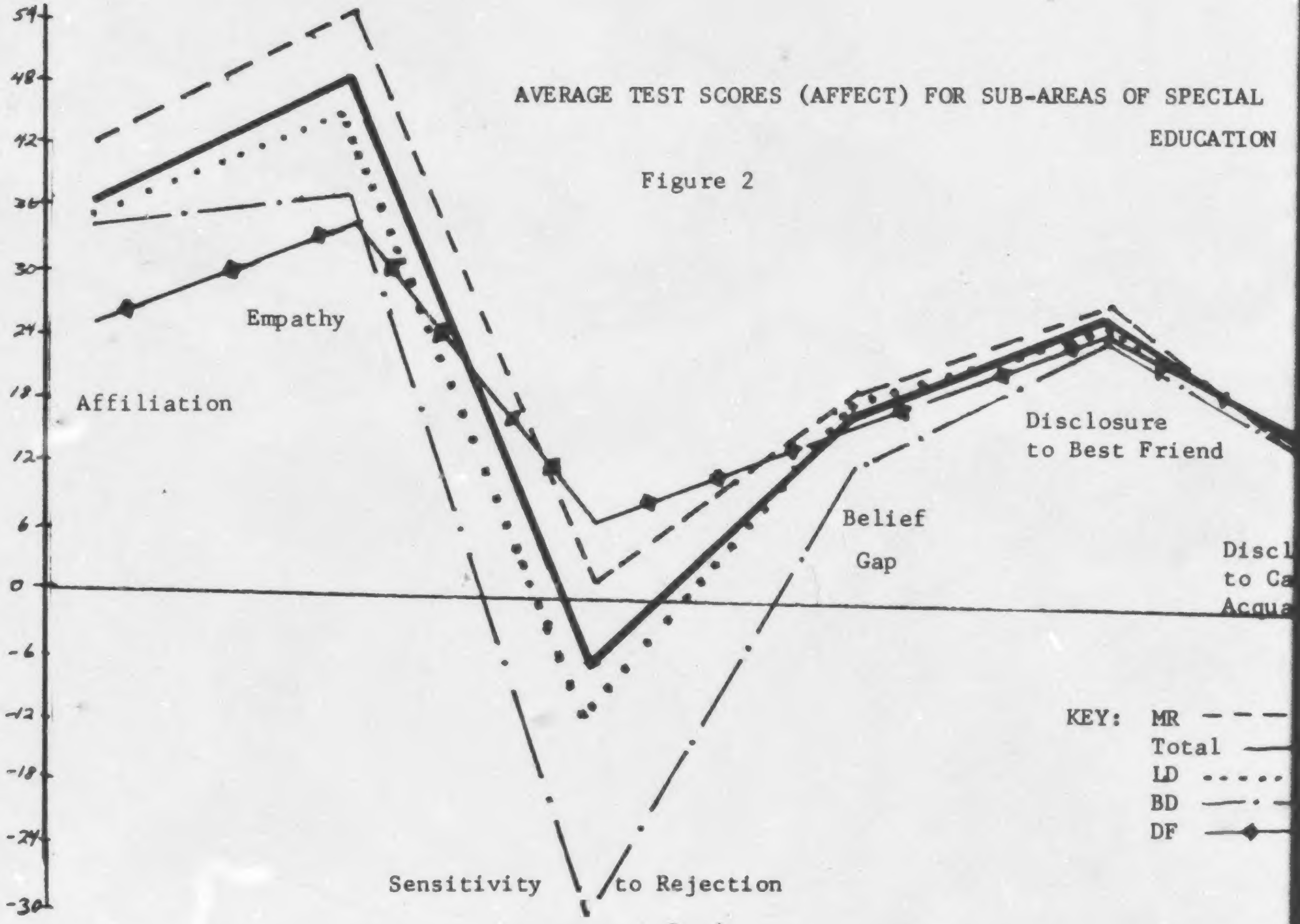
		Effective Touching	2.60
Affil	.74	Tense (Symmetrical) Body Position	1.78
		Inappropriate Touching	1.61
Emp	-.86	Relaxed Body Position	1.54
		Disruptive Distance	1.40
		Cool Distance	1.02

A possible explanation for the negative effect of such a combination might derive from the final two patterns (5 and 6), both of which combined high disclosure and high need for affiliation with low empathy. Verbalizations of Ss with this pattern were responded to as unnecessary, negative, confusing and disruptive, although raters thought the S was enjoying himself. Body gestures were again inconsistent, with manner of touching being rated both as effective at times and inappropriate at times; distance rated as disruptive and cool; and body position rated as both relaxed and tense. Again remembering that causal inferences cannot be drawn, it might be hypothesized that this represents a situation where motivation to meet a given need (affiliation) is so strong that

AVERAGES ON TEST SCORES FOR SUB-AREAS IN SPECIAL EDUCATION

Figure 1

	Affiliation	Sensitivity to Rel.	Empathy	Bel. Gap	Disc/ BF	Disc/ CA	Flex.	As. Fl.	Id. Fl.$_1$	Id. Fl.$_2$
MR n=16	42.00	1.38	54.13	19.19	28.88	11.30	19.06	23.31	24.06	22.68
LD n=17	35.47	-[illegible].29	45.06	18.18	26.83	11.90	19.53	30.12	23.17	16.94
BD n=6	35.17	-29.30	38.50	13.80	27.80	13.17	18.67	26.33	19.00	18.33
DF n=7	25.71	6.14	54.86	17.29	26.40	14.57	18.43	27.58	18.86	15.57
TOTAL:	36.22	-6.39	48.85	17.83	27.63	12.28	19.09	26.87	22.28	18.90
SD:	24.16	20.85	23.98	9.39	3.05	6.60	4.40	6.45	10.31	5.12

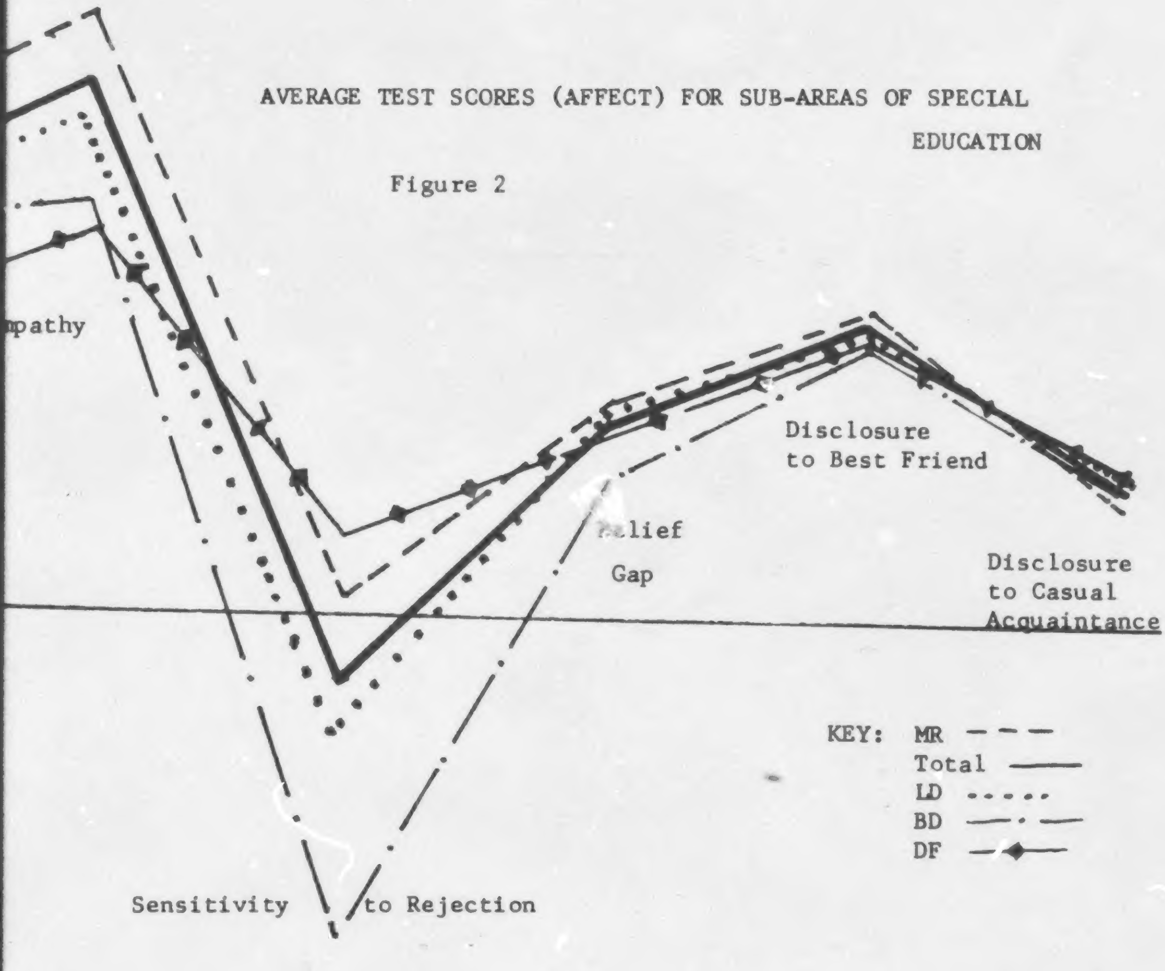


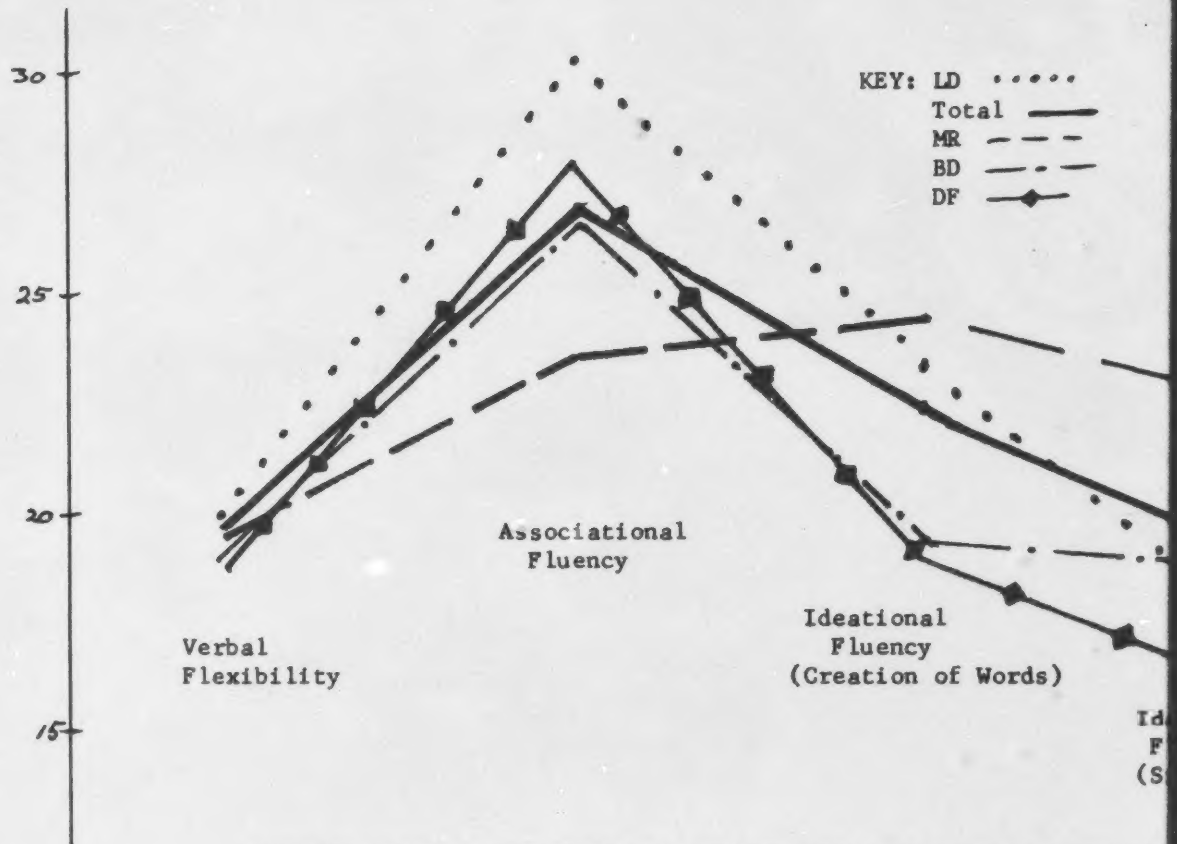
AVERAGE TEST SCORES (AFFECT) FOR SUB-AREAS OF SPECIAL EDUCATION

Figure 2

AVERAGE TEST SCORES (AFFECT) FOR SUB-AREAS OF SPECIAL EDUCATION

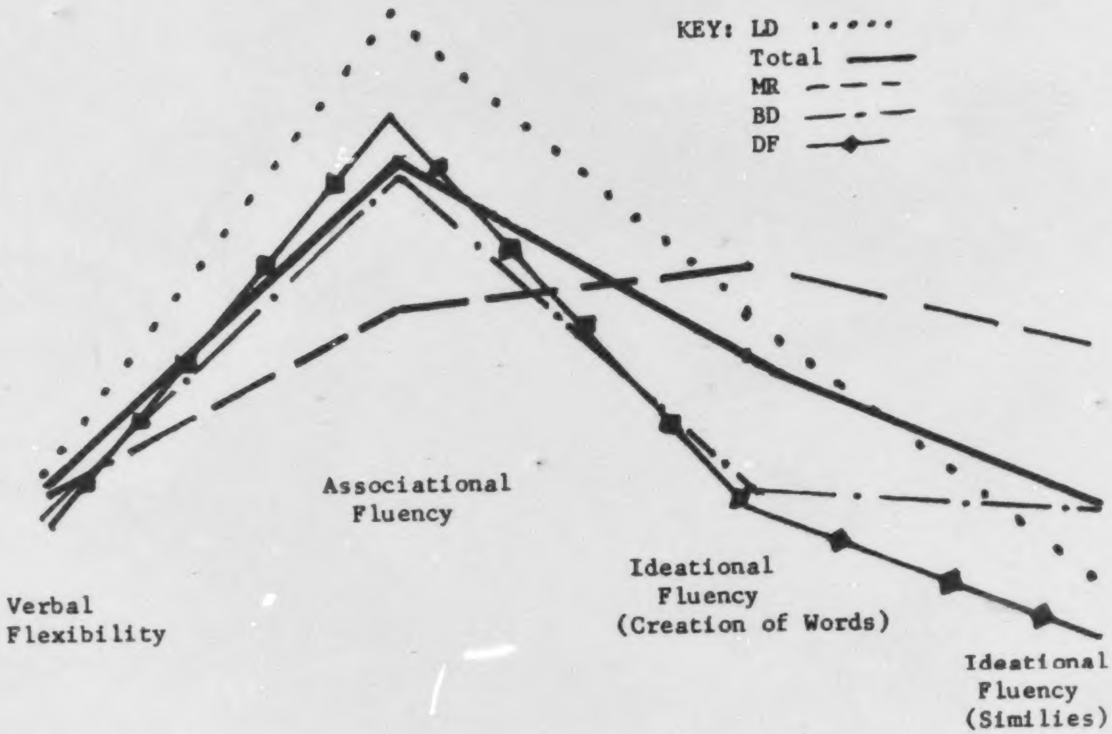
Figure 2





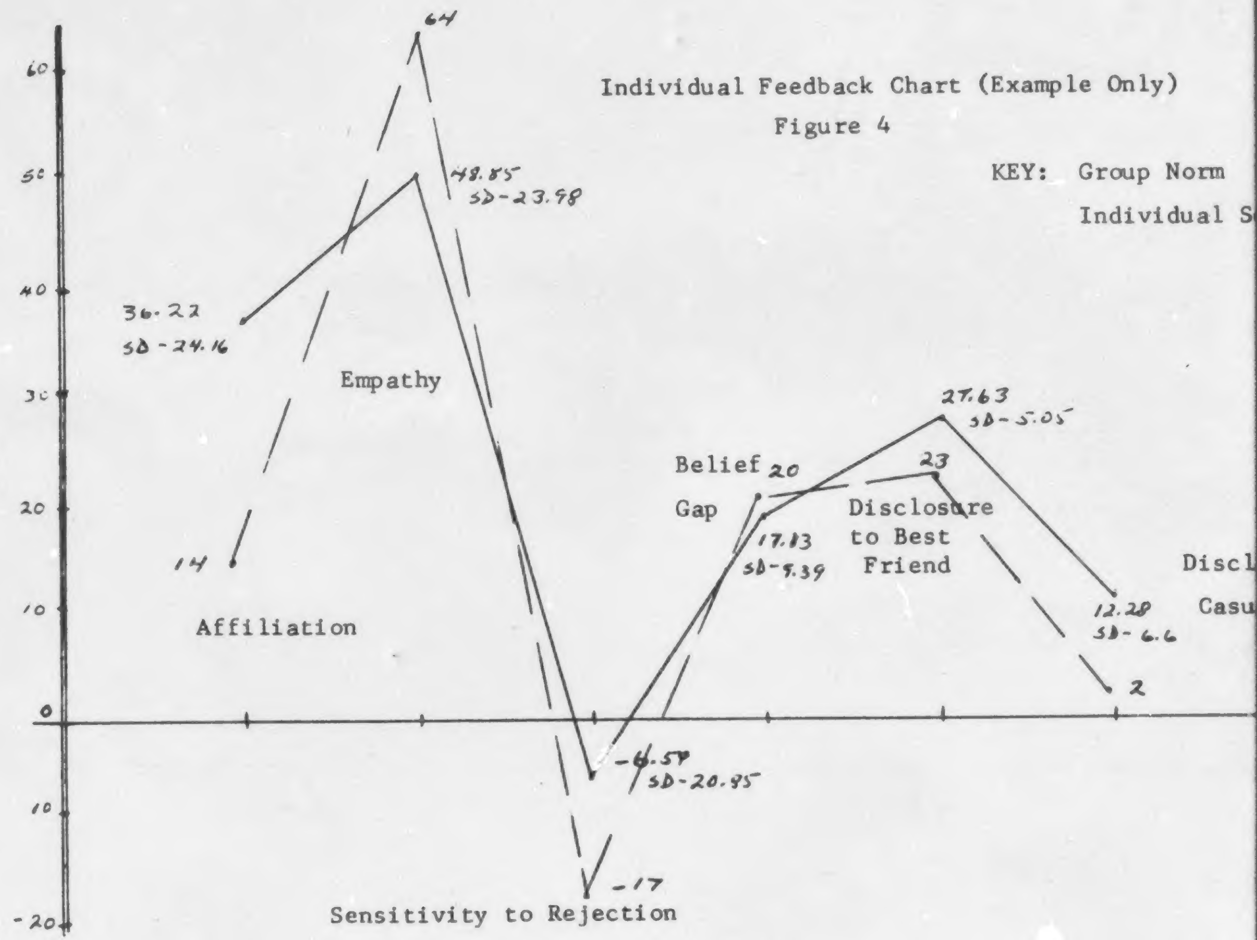
AVERAGE TESTS SCORES (VERBAL) FOR SUB-AREAS OF SPECIAL EDUCATIO

Figure 3



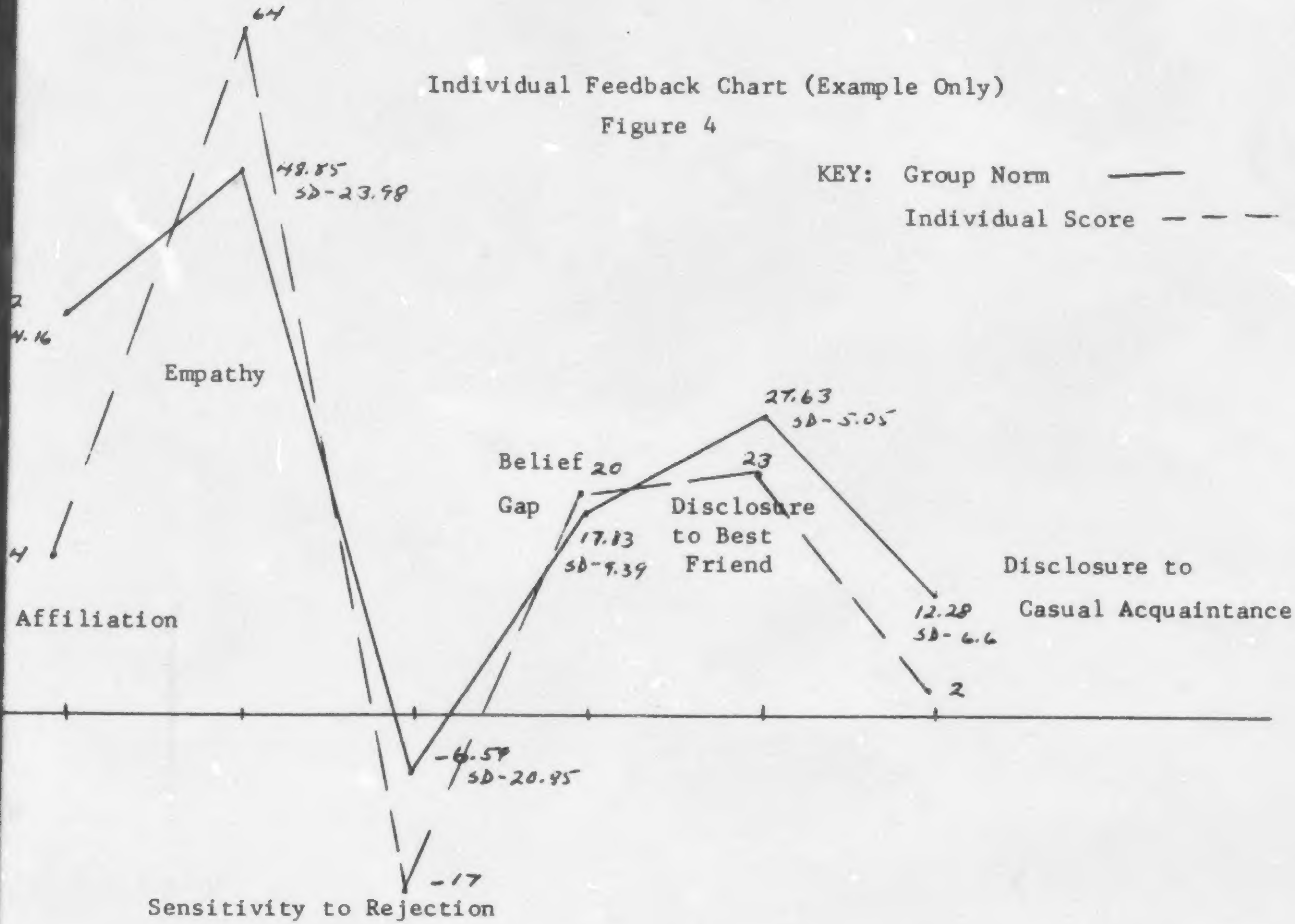
AVERAGE TESTS SCORES (VERBAL) FOR SUB-AREAS OF SPECIAL EDUCATION

Figure 3



Individual Feedback Chart (Example Only)

Figure 4



Individual Feedback Chart (Example Only)

Figure 4

TABLE 1

Correlation Table for Written Test Material

	AFFIL	EMP	S-R	T PRAC	P BLF	BF	CA	TOPICS	WA	SIMI
AFFIL	.74									
EMP	.49	.71								
S-R	.12	.16	.65							
T PRAC	.20	.16	-.09	.61						
P BLF	.05	.09	-.38	.46	.70					
BF	.21	.31	.03	.07	-.15	.77				
CA	-.05	.08	.03	.19	.00	.19	.81			
TOPICS	-.07	-.22	.00	.04	.08	-.17	-.12	.63		
WA	-.03	.02	.23	.39	.33	.04	.11	-.09	.61	
SIMIL	-.14	.08	.13	-.05	-.03	.27	-.31	.21	-.09	.69
CW1	.09	.17	.13	.17	.13	.16	-.15	.29	.39	.33
CW TOT	.05	.10	.10	.11	.03	.18	-.17	.43	.28	.49

TABLE 1

Correlation Table for Written Test Material

FFIL	EMP	S-R	T PRAC	P BLF	BF	CA	TOPICS	WA	SIMIL	CW1	CW TOT
.74											
.49	.71										
.12	.16	.65									
.20	.16	-.09	.61								
.05	.09	-.38	.46	.70							
.21	.31	.03	.07	-.15	.77						
-.05	.08	.03	.19	.00	.19	.81					
-.07	-.22	.00	.04	.08	-.17	-.12	.63				
-.03	.02	.23	.39	.33	.04	.11	-.09	.61			
-.14	.08	.13	-.05	-.03	.27	-.31	.21	-.09	.69		
.09	.17	.13	.17	.13	.16	-.15	.29	.39	.33	.77	
.05	.10	.10	.11	.03	.18	-.17	.43	.28	.49	.72	.81

Table 2

Rotated Factor Matrix for Written Test Material

	Factor 1	Factor 2	Factor 3	Factor 4	Factor
TIB	-.25	.57*	-.22	.10	-.08
AFFIL	.01	-.11	.85*	.01	-.01
EMP	-.05	.04	.73*	-.13	-.39
S-R	-.26	-.71*	.23	.18	.05
T PRAC	-.06	.49*	.44*	.40	.09
P BLF	-.02	.79*	.21	-.03	.19
BF	-.16	-.09	.18	.15	-.83*
CA	.15	-.02	-.13	.86*	-.20
TOPICS	-.60*	-.02	-.13	-.03	.51*
WA	-.36	.56*	.07	.40	.03
SIMIL	-.55*	-.04	-.14	-.46*	-.38
CW1	-.84*	.17	.16	.04	-.07
CW TOT	-.89*	.00	.00	-.12	-.09
Eigenvalues	2.67	2.14	1.90	1.19	1.05
Accumulative Percent Variance Accounted for	20.55	37.04	51.67	60.82	68.90
Accumulative percent common variance	29.83	53.76	74.99	88.27	100.00

Table 2

Rotated Factor Matrix for Written Test Material

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
	-.25	.57*	-.22	.10	-.08
	.01	-.11	.85*	.01	-.01
	-.05	.04	.73*	-.13	-.39
	-.26	-.71*	.23	.18	.05
C	-.06	.49*	.44*	.40	.09
	-.02	.79*	.21	-.03	.19
	-.16	-.09	.18	.15	-.83*
	.15	-.02	-.13	.86*	-.20
S	-.60*	-.02	-.13	-.03	.51*
	-.36	.56*	.07	.40	.03
	-.55*	-.04	-.14	-.46*	-.38
	-.84*	.17	.16	.04	-.07
T	-.89*	.00	.00	-.12	-.09
values	2.67	2.14	1.90	1.19	1.05
ulative Percent ance Accounted	20.55	37.04	51.67	60.82	68.90
ulative percent mon variance	29.83	53.76	74.99	88.27	100.00

Table 3

Correlation Table for the Twenty-Nine Items of Observation Scale I

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	2
1	.84																							
2	.84	.89																						
3	-.76	-.84	.87																					
4	.82	.79	-.90	.86																				
5	.66	.67	-.72	.64	.75																			
6	-.69	-.76	.81	-.79	-.63	.71																		
7	.13	.06	-.09	.11	.03	-.06	.87																	
8	-.08	-.11	-.01	-.01	-.05	.14	.70	.75																
9	-.15	-.13	.15	-.11	-.07	.09	-.63	-.75	.81															
10	.15	.12	-.09	.16	.06	-.05	.71	.45	-.41	.87														
11	.10	-.04	.07	-.02	-.07	-.01	-.62	-.53	.60	-.48	.75													
12	-.49	-.51	.48	-.47	-.43	.38	.40	.30	-.32	.13	-.35	.82												
13	-.61	-.52	.44	-.54	-.31	.53	.06	.27	.15	.14	-.22	.29	.68											
14	.08	.77	-.08	.63	.50	-.62	.22	.05	-.25	.18	-.16	-.09	-.08	.88										
15	.76	.83	-.74	.69	.71	-.64	.32	.05	-.33	.28	-.24	-.23	-.52	.72	.90									
16	-.75	-.80	.73	-.76	-.59	.67	-.18	.01	.18	-.14	.06	.35	.58	-.73	-.74	.77								
17	-.57	-.06	.64	-.65	-.61	.46	-.21	.04	.19	-.15	.23	.31	.23	-.43	-.75	.54	.68							
18	.63	.62	-.61	.62	.37	-.55	.32	.12	.22	.17	.02	.13	.55	.75	.63	.75	-.30	.73						
19	.61	.63	-.54	.56	.47	-.57	.44	.21	-.30	.02	-.15	-.32	-.42	.53	[illegible]	-.59	-.38	.50	.86					
20	.42	.48	-.57	.66	.31	-.54	.38	.39	-.24	.23	-.15	-.15	-.25	.51	.37	-.37	-.37	.53	.39	.87				
21	-.36	-.50	.53	-.58	-.38	.52	-.22	-.23	.02	-.19	.18	.19	.27	-.52	-.33	.42	.34	-.38	-.31	-.84	.97			
22	.42	.58	-.58	.63	.43	-.62	.18	.19	-.09	.10	-.22	-.23	-.30	.61	.40	-.59	.38	.46	.35	.75	-.91	.90		
23	-.75	-.75	.75	-.77	-.64	.66	-.14	-.08	-.00	-.13	-.05	.45	.47	-.08	-.00	.65	.52	-.56	-.50	-.71	.74	-.70	.84	
24	.86	.85	-.82	.77	.79	-.70	.19	.09	-.23	.14	-.09	-.42	-.46	.63	.82	-.72	-.09	.53	.62	.40	-.48	.54	-.75	.84
25	.70	.84	-.75	.66	.62	-.62	.37	.19	-.43	.37	-.39	-.19	.80	.87	-.72	-.64	-.64	.63	.70	.30	-.52	.60	-.65	.78
26	.45	.50	-.64	.66	.27	-.47	.10	.14	-.21	-.02	-.17	-.26	-.33	.56	.45	-.45	-.36	.40	.22	.65	-.66	.62	-.55	.46
27	.38	.33	-.31	.45	.03	-.37	.28	.17	-.21	.03	-.17	-.13	-.25	.32	.28	-.31	-.12	.34	.30	.63	-.54	.49	-.46	.35
28	.26	.43	-.50	.39	.33	-.18	.13	.22	-.18	.31	-.32	-.39	-.13	.24	.42	-.38	-.42	.17	.28	.30	-.37	.31	-.30	.36
29	.54	.55	-.59	.68	.33	-.60	.31	.14	-.20	.14	-.12	-.33	-.45	.42	.53	-.46	-.42	.48	.47	.61	-.40	.41	-.53	.60

Table 3

Correlation Table for the Twenty-Nine Items of Observation Scale I

	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
87																										
90	.86																									
72	.64	.75																								
81	-.79	-.65	.71																							
09	.11	.03	-.06	.87																						
01	-.01	-.05	.14	.70	.73																					
15	-.11	-.07	.09	-.63	-.73	.81																				
09	.16	.06	-.05	.71	.45	-.41	.87																			
07	-.02	-.07	-.01	-.62	-.53	.00	-.48	.73																		
68	-.47	-.43	.38	.48	.30	-.32	.13	-.33	.82																	
44	-.54	-.31	.53	.06	.27	.15	.14	-.22	.29	.68																
08	.63	.50	-.62	.22	.05	-.25	.18	-.16	-.09	-.68	.88															
74	.69	.71	-.64	.32	.05	-.32	.28	-.24	-.23	-.52	.72	.90														
73	-.76	-.59	.67	-.18	.01	.18	-.14	.06	.35	.58	-.75	-.74	.77													
66	-.65	-.61	.46	-.21	.04	.12	-.13	.23	.31	.23	-.43	-.75	.54	.68												
61	.62	.37	-.55	.32	.12	.22	.17	.02	.12	.55	.75	.63	.75	-.30	.73											
54	.56	.47	-.57	.44	.21	-.30	.62	-.15	-.32	-.42	.53	[illegible]	-.59	-.38	.50	.86										
57	.00	.31	-.54	.38	.39	-.24	.23	-.15	-.15	-.25	.51	.37	-.37	-.37	.53	.39	.87									
53	-.58	-.38	.52	-.22	-.23	.02	-.19	.18	.19	.27	-.52	-.33	.42	.34	-.38	-.31	-.84	.97								
58	.63	.43	-.62	.18	.19	-.09	.10	-.22	-.23	-.30	.61	.40	-.59	.38	.46	.35	[illegible]	-.91	.90							
75	-.77	-.64	.66	-.14	-.08	-.00	-.13	-.05	.45	.47	-.68	-.60	.65	.52	-.56	-.60	-.71	.74	-.70	.84						
82	.77	.79	-.70	.19	.09	-.23	.14	-.09	-.42	-.46	.63	.82	-.72	-.69	.53	.62	.46	-.48	.54	-.75	.84					
75	.00	.62	-.62	.37	.19	-.43	.37	-.39	-.19	.80	.87	-.72	-.64	-.64	.63	.70	.50	-.52	.60	-.65	.78	.90				
64	.00	.27	-.47	.10	.14	-.21	-.02	-.17	-.26	-.33	.56	.45	-.45	-.36	.40	.22	.65	-.06	.62	-.55	.46	.51	.82			
31	.45	.03	-.37	.28	.17	-.21	.03	-.17	-.13	-.25	.32	.28	-.31	-.12	.34	.30	.63	-.54	.49	-.46	.35	.33	.70	.84		
50	.39	.33	-.18	.13	.22	-.18	.31	-.32	-.39	-.13	.24	.42	-.38	-.42	.17	.28	.30	-.37	.31	-.30	.36	.42	.54	.22	.64	
59	.08	.33	-.60	.31	.14	-.20	.14	-.12	-.33	-.45	.42	.53	-.46	-.42	.48	[illegible]	.61	-.40	.41	-.53	.60	.40	.45	.63	.20	.79

Table 4

Rotated Factor Matrix for Observation Scale I

1	.85*	-.09	-.09	-.07	.13	.27
2	.88*	-.04	-.23	-.19	.03	.13
3	-.79*	.02	.30	.33	.02	-.21
4	.73*	-.07	-.35	-.25	.08	.36
5	.74*	-.07	-.16	-.38	.05	-.16
6	-.73*	.13	.32	.06	-.07	-.25
7	.10	.79*	-.10	.11	.43	.14
8	-.15	.78*	-.22	-.05	.23	.12
9	-.19	-.86*	-.10	-.01	-.01	-.18
10	.11	.50*	-.06	-.07	.77*	-.07
11	-.03	-.83*	.10	.20	.02	.08
12	-.28	.56*	.07	.58*	-.18	-.24
13	-.62*	.31	.10	-.28	-.21	-.26
14	.81*	.14	-.36	.24	-.02	.07
15	.90*	.23	-.01	-.18	.07	.10
16	-.84*	-.02	.21	.02	-.06	-.12
17	-.65*	-.12	.09	.48*	.03	.03
18	.70*	.10	-.24	.31	.12	.25
19	.60*	.16	-.08	-.10	.66*	.17
20	.27	.19	-.75*	-.06	.15	.41
21	-.26	-.07	.92*	.13	-.07	-.14
22	.41	.08	-.85*	-.07	-.02	.09
23	-.63*	.12	.57*	.15	-.21	-.19
24	.83*	.05	-.17	-.29	.08	.18
25	.82*	.36	-.27	-.13	.08	.00
26	.35	.14	-.53*	-.24	-.30	.50*
27	.14	.16	-.40	-.00	-.06	.79*
28	.24	.22	-.21	-.69*	.04	.10
29	.44	.06	-.14	-.11	.17	.73*

Eigenvalues:

13.65	3.94	2.31	1.58	1.16	1.05

Accumulative percent variance accounted for:

47.07	60.65	68.60	74.06	78.07	81.70

Accumulative percent common variance:

57.6	74.24	83.97	90.65	95.56	100.00

Table 5

Correlation Table for the Twenty-Three Items of Observation Scale II

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
1	.86																		
2	-.71	.86																	
3	.77	-.72	.84																
4	-.90	.82	-.76	.94															
5	.84	-.78	.84	-.83	.87														
6	.42	-.56	.58	-.55	.68	.84													
7	.70	-.53	.66	-.68	.80	.77	.79												
8	-.68	.65	-.77	.76	-.80	-.85	-.87	.92											
9	.72	-.69	.76	-.75	.86	.82	.88	-.90	.88										
10	.49	-.52	.53	-.45	.61	.72	.65	-.68	.67	.84									
11	.37	-.47	.60	-.40	.64	.55	.59	-.62	.55	.36	.62								
12	-.24	.46	-.05	.33	-.07	.14	.11	-.06	-.09	-.10	.17	.87							
13	.65	-.54	.84	-.62	.75	.70	.79	-.83	.83	.61	.64	.07	.95						
14	-.65	.59	-.81	.65	-.80	-.77	-.79	.89	-.85	-.73	-.66	-.14	-.92	.91					
15	.67	-.57	.84	-.72	.75	.66	.71	-.86	.80	.61	.55	-.04	.88	-.87	.87				
16	.56	-.64	.76	-.62	.75	.78	.78	-.89	.88	.61	.65	-.00	.90	-.89	.91	.93			
17	-.40	.27	-.44	.31	-.38	-.28	-.51	.33	-.44	-.39	-.19	-.01	-.56	.50	-.52	-.44	.84		
18	-.39	.47	-.58	.36	-.54	-.26	-.40	.41	-.41	-.34	-.40	.09	-.58	.53	-.64	-.56	.64	.77	
19	-.11	.19	-.25	.11	-.16	-.16	-.21	.22	-.35	-.04	-.37	.26	-.50	.30	-.36	-.49	.10	.19	.89
20	.49	-.54	.68	-.57	.64	.62	.60	-.71	.61	.51	.54	.24	.51	-.59	.58	.58	-.17	.22	.08
21	-.07	-.19	.01	-.05	.17	.32	.08	-.13	.15	.42	.03	-.04	.08	[illegible]	.08	.17	.25	.06	-.11
22	-.04	-.19	.04	-.01	.18	.46	.21	-.21	.13	.58	.23	.28	.02	-.17	.11	.13	-.04	-.04	.25
23	.59	-.66	.74	-.68	.67	.60	.62	-.71	.62	.53	.46	-.08	.74	-.70	.73	.64	-.37	-.55	-.20

Table 5

Correlation Table for the Twenty-Three Items of Observation Scale II

3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
.84																				
-.76	.94																			
.84	-.83	.87																		
.58	-.55	.68	.84																	
.66	-.68	.80	.77	.79																
-.77	.76	-.80	-.85	-.87	.92															
.76	-.75	.86	.82	.88	-.90	.88														
.53	-.45	.61	.72	.65	-.68	.67	.84													
.60	-.40	.64	.55	.39	-.62	.55	.36	.62												
-.05	.33	-.07	.14	.11	-.06	-.09	-.10	.17	.87											
.84	-.62	.75	.70	.79	-.83	.83	.61	.64	.07	.95										
-.81	.65	-.80	-.77	-.79	.89	-.85	-.73	-.66	-.14	-.92	.91									
.84	-.72	.75	.66	.71	-.86	.80	.61	.55	-.04	.88	-.87	.87								
.76	-.62	.75	.78	.78	-.89	.88	.61	.65	-.00	.90	-.89	.91	.93							
-.44	.31	-.38	-.28	-.31	.33	-.44	-.39	-.19	-.01	-.56	.50	-.52	-.44	.84						
-.58	.36	-.54	-.26	-.40	.41	-.41	-.34	-.40	.09	-.58	.53	-.64	-.56	.64	.77					
-.25	.11	-.16	-.16	-.21	.22	-.35	-.04	-.37	.26	-.50	.30	-.36	-.49	.10	.19	.89				
.68	-.57	.64	.62	.60	-.71	.61	.51	.54	.24	.51	-.59	.58	.58	-.17	.22	.08	.78			
.01	-.05	.17	.32	.08	-.13	.15	.42	.03	-.04	.08	[illegible]	.08	.17	.25	.06	-.11	.03	.81		
.04	-.01	.18	.46	.21	-.21	.13	.58	.23	.28	.02	-.17	.11	.13	-.04	-.04	.25	.36	.38	.80	
.74	-.68	.67	.60	.62	-.71	.62	.53	.46	-.08	.74	-.70	.73	.64	-.37	-.55	-.20	.55	.15	.17	[illegible]

Table 6

Rotated Factor Matrix for Observation Scale II

1	-.79*	.14	-.38	-.14	.22
2	.71*	.20	.54	.02	-.16
3	-.85*	.04	-.12	.08	.32
4	.84*	-.03	.45	.10	-.10
5	-.88*	-.13	-.18	-.00	.22
6	-.75*	-.48	.16	.12	.08
7	-.83*	-.14	.11	.08	.26
8	.92*	.18	-.05	-.13	-.14
9	-.87*	-.17	-.09	.22	.20
10	-.50*	-.65*	.03	-.06	.31
11	-.67*	-.06	.26	.31	.06
12	-.05	-.06	.92*	-.15	-.01
13	-.77*	-.06	.07	.40	.43
14	.82*	.16	-.12	-.23	-.37
15	-.77*	-.10	-.07	.24	.44
16	-.79*	-.18	.03	.42	.31
17	.25	-.07	-.04	.03	-.88*
18	.31	.02	.12	-.12	-.81*
19	.16	-.05	.13	-.91*	-.06*
20	-.81*	-.11	.21	-.25	-.05
21	-.01	-.83*	-.19	.22	-.20
22	-.14	-.77*	.26	-.33	.05
23	-.69*	-.17	-.7	.05	.34
Eigenvalues					
	12.78	2.27	1.64	1.45	1.15
Accumulative percent of variance accounted for:					
	55.55	65.42	72.57	78.87	83.89
Accumulative percent common variance					
	66.22	77.98	86.51	94.02	100.00

Table 7

Correlation Table for the Fifteen Items of Observation Scale III

	1	2	3	4	5	6	7	8	9	10	11	12
1	.80											
2	.48	.43										
3	-.52	-.27	.57									
4	.17	-.05	.35	.81								
5	.13	-.06	.39	.92	.90							
6	-.23	-.03	-.31	-.77	-.85	.87						
7	.10	.15	-.43	-.63	-.76	.81	.79					
8	-.02	-.08	.37	.50	.66	-.71	-.79	.60				
9	-.16	-.22	.45	.72	.85	-.81	-.90	.75	.87			
10	.04	.12	-.56	-.78	-.86	.80	.84	-.81	-.83	.86		
11	.08	-.05	.39	.74	.77	-.74	-.76	.63	-.74	-.79	.74	
12	-.46	-.36	.41	.28	.27	-.22	-.38	.16	.51	-.29	.37	.55
13	-.05	.19	-.52	-.91	-.88	.76	.70	-.59	-.79	.78	-.73	-.32
14	.10	-.04	.53	.85	.81	-.82	-.70	.60	.71	-.78	.76	.26
15	-.71	-.41	.29	-.41	-.37	.49	.04	-.09	-.04	.19	-.28	.42

Table 7

Correlation Table for the Fifteen Items of Observation Scale III

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
80														
48	.43													
52	-.27	.57												
17	-.05	.35	.81											
13	-.06	.39	.92	.90										
23	-.03	-.31	-.77	-.85	.87									
10	.15	-.43	-.63	-.76	.81	.79								
02	-.08	.37	.50	.66	-.71	-.79	.60							
16	-.22	.45	.72	.85	-.81	-.90	.75	.87						
04	.12	-.56	-.78	-.86	.80	.84	-.81	-.83	.86					
08	-.05	.39	.74	.77	-.74	-.76	.63	-.74	-.79	.74				
46	-.36	.41	.28	.27	-.22	-.38	.16	.51	-.29	.37	.55			
05	.19	-.52	-.91	-.88	.76	.70	-.59	-.79	.78	-.73	-.32	.83		
10	-.04	.53	.85	.81	-.82	-.70	.60	.71	-.78	.76	.26	-.91	.83	
71	-.41	.29	-.41	-.37	.49	.04	-.09	-.04	.19	-.28	.42	.26	-.40	.83

TABLE 8

ROTATED FACTOR MATRIX FOR OBSERVATION SCALE III

	1	2
1	.11	.89*
2	-.06	.66*
3	.47	-.60*
4	.89*	.09
5	.95*	.04
6	-.92*	-.15
7	-.86*	.23
8	.76*	-.12
9	.88*	-.29
10	-.92*	.14
11	.86*	-.03
12	.31	-.67*
13	-.91*	.08
14	.91*	.03
15	-.36	-.84*
Eigenvalues	8.42	2.87
Accumulated Percent of Variance Accounted for	56.10	75.22
Accumulated Percent of Common Variance	74.58	100.00

TABLE 9

CORRELATION TABLE FOR THE NINETEEN ITEMS OF OBSERVATION SCALE IV

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1	.73															
2	-.49	.77														
3	.54	-.54	.93													
4	-.29	.53	.04	.66												
5	-.48	.69	-.36	.71	.84											
6	.14	-.48	-.00	-.68	-.80	.81										
7	.03	-.51	-.05	-.65	-.65	.79	.84									
8	-.62	.59	-.26	.53	.73	-.68	-.55	.84								
9	.49	-.34	.30	-.33	-.40	.38	.24	-.69	.77							
10	-.60	.72	-.46	.58	.76	-.62	-.57	.81	-.66	.86						
11	.40	-.57	.12	-.56	-.63	.65	.65	-.76	.58	-.71	.82					
12	-.42	.65	-.29	.52	.80	-.77	-.68	.82	-.51	.75	-.75	.74				
13	-.54	.65	-.35	.64	.76	-.67	-.70	.76	-.60	.82	-.84	.67	.83			
14	.43	-.61	.27	-.73	-.80	.77	.77	-.70	.45	-.76	.74	-.77	-.84	.84		
15	-.48	.64	-.11	.58	.65	-.64	-.57	.80	-.56	.70	-.86	.77	.66	-.72	.79	
16	.49	-.74	.36	-.61	-.73	.67	.64	.70	.57	.57	-.80	.88	-.73	-.90	.81	.
17	.66	-.71	.29	-.66	-.74	.61	.58	-.75	.53	-.80	.69	-.67	-.79	.70	-.71	.
18	-.60	.72	-.44	.59	.74	-.64	-.55	.76	-.61	.90	-.71	.70	.83	-.78	.73	-.
19	.07	.20	.51	.55	.42	-.62	-.65	.40	-.14	.35	-.54	.45	.46	-.54	.51	-.

TABLE 9

CORRELATION TABLE FOR THE NINETEEN ITEMS OF OBSERVATION SCALE IV

2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19
.77																	
.54	.93																
.53	.04	.66															
.69	-.36	.71	.84														
.48	-.00	-.68	-.80	.81													
.51	-.05	-.65	-.65	.79	.84												
.59	-.26	.53	.73	-.68	-.55	.84											
.34	.30	-.33	-.40	.38	.24	-.69	.77										
.72	-.46	.58	.76	-.62	-.57	.81	-.66	.86									
.57	.12	-.56	-.63	.65	.65	-.76	.58	-.71	.82								
.65	-.29	.52	.80	-.77	-.68	.82	-.51	.75	-.75	.74							
.65	-.35	.64	.76	-.67	-.70	.76	-.60	.82	-.84	.67	.83						
.61	.27	-.73	-.80	.77	.77	-.70	.45	-.76	.74	-.77	-.84	.84					
.64	-.11	.58	.65	-.64	-.57	.80	-.56	.70	-.86	.77	.66	-.72	.79				
.74	.36	-.61	-.73	.67	.64	.70	.57	.57	-.80	.88	-.73	-.90	.81	.83			
.71	.29	-.66	-.74	.61	.58	-.75	.53	-.80	.69	-.67	-.79	.70	-.71	.78	.77		
.72	-.44	.59	.74	-.64	-.55	.76	-.61	.90	-.71	.70	.83	-.78	.73	-.85	-.82	.84	
.20	.51	.55	.42	-.62	-.65	.40	-.14	.35	-.54	.45	.46	-.54	.51	-.43	-.42	.39	.84

TABLE 10

ROTATED FACTOR MATRIX FOR OBSERVATION SCALE IV

	1	2	3
1	-.06	.54	.66*
2	.61*	-.56*	-.28
3	.01	.94*	.19
4	.78*	.00	-.22
5	.79*	-.34	-.31
6	-.86*	-.07	.26
7	-.90*	-.10	.12
8	.51	-.14	-.75*
9	-.11	.09	.87*
10	.58*	-.37	-.63
11	-.61*	-.04	.67*
12	.69*	-.17	-.49
13	.67*	-.24	-.56*
14	-.81*	.17	.39
15	.58*	.00	-.68*
16	-.67*	.25	.56*
17	-.61*	.28	.57*
18	.60*	.36	.60*
19	.69*	.56*	-.20
Eigenvalues			
	11.95	2.40	1.01
Accumulated Percent of Variance Accounted For			
	62.82	75.45	80.78
Accumulated Percent of Common Variance			
	77.77	93.40	100.00

TABLE 11

CORRELATION TABLE FOR THE OBSERVATION SCALE FACTORS (16 FACTORS)

	S1F1	S1F2	S1F3	S1F4	S1F5	S1F6	S2F1	S2F2	S2F3	S2F4	S2F5	S3F1	S3F2
S1F1	.78												
S1F2	.00	.65											
S1F3	.00	.00	.64										
S1F4	.00	.00	.00	.86									
S1F5	.00	.00	.00	.00	.76								
S1F6	.00	.00	.00	.00	.00	.69							
S2F1	-.73	.02	.25	.18	-.28	-.26	.86						
S2F2	-.12	.26	.05	-.04	.03	.14	.00	.74					
S2F3	.13	-.28	.20	.31	-.21	-.14	.00	.00	.78				
S2F4	-.05	.15	.23	-.16	-.28	.18	.00	.00	.00	.85			
S2F5	.24	-.04	-.04	-.12	.07	-.09	.00	.00	.00	.00	.68		
S3F1	.64	.05	-.07	-.02	-.10	.15	-.63	-.01	.32	.26	.19	.89	
S3F2	.07	-.17	.24	.07	-.32	-.34	.22	-.40	.39	.17	.01	.00	.80
S4F1	-.40	-.05	.25	.04	-.11	-.17	.48	.09	.02	.24	-.10	-.58	.37
S4F2	.26	.34	.21	-.35	-.05	.11	-.24	.46	.14	.03	-.03	.35	.08
S4F3	.60	-.09	.06	.01	-.05	.09	-.50	-.12	.12	.50	.27	.64	.09

TABLE 11

RRELATION TABLE FOR THE OBSERVATION SCALE FACTORS (16 FACTORS)

S1F2	S1F3	S1F4	S1F5	S1F6	S2F1	S2F2	S2F3	S2F4	S2F5	S3F1	S3F2	S4F1	S4F2	S4F3
.65														
.00	.64													
.00	.00	.86												
.00	.00	.00	.76											
.00	.00	.00	.00	.69										
.02	.25	.18	-.28	-.26	.86									
.26	.05	-.04	.03	.14	.00	.74								
-.28	.20	.31	-.21	-.14	.00	.00	.78							
.15	.23	-.16	-.28	.18	.00	.00	.00	.85						
-.04	-.04	-.12	.07	-.09	.00	.00	.00	.00	.68					
.05	-.07	-.02	-.10	.15	-.63	-.01	.32	.26	.19	.89				
-.17	.24	.07	-.32	-.34	.22	-.40	.39	.17	.01	.00	.80			
-.05	.25	.04	-.11	-.17	.48	.09	.02	.24	-.10	-.58	.37	.71		
.34	.21	-.35	-.05	.11	-.24	.46	.14	.03	-.03	.35	.08	.00	.90	
-.09	.06	.01	-.05	.09	-.50	-.12	.12	.50	.27	.64	.09	.00	.00	.88

the very skills required (empathy) to achieve the need are overlooked. Or possibly the ambivalence inherent in a strong dependency on affiliation with others is coded through low empathy and inconsistent verbal messages.

In short, this section seemed to indicate that the written measures of experimentalism, disclosure, affiliation and empathy had the most predictive value. The advice to be drawn from the results might be stated as "Keep your mind open and your mouth shut if you want to have a positive affective impact on others." More seriously, the data do seem to call into question some of the recent propaganda advocating closer physical contact and sharing of self-revelation as techniques to enchance affective communication. If these ratings are to be believed, the naive observer prefers more self-containment and genuineness with his warmth. The most channel discrepancy was found in combinations of high needs for affiliation with low experimentalism and openness, or low empathy. Possibly this represents a "belief gap" or ambiguity in feelings about others which lessens the person's affective impact.

In summary, we have found that (1) students in different specialty areas have differing profiles on certain affective measures, at least to some extent; (2) factors emerging from written and behavioral data corroborate other findings (Mehrabian, 1972) that affective variables are influential in three main areas of responsiveness to others, power or control over others, and positiveness--especially about the self; and finally (3) patterns which combine a degree of self-disclosure with a degree of open-mindedness (experimentalism) and degrees of affiliation and empathetic tendencies best predict the affective response created in others by one's nonverbal behavior. With this, we have fulfilled the second requirement mentioned in the introduction for the voluntary control and training of affective behavior: a preliminary insight as to patterns of bias which distort the sending of messages. The needs at this point are for further explanation of interrelationships among these variables, and further study of their effects in an ongoing behavioral situation, both of which are planned.

TABLE 12

ROTATED MATRIX OF SECOND-ORDER OBSERVATION SCALE FACTORS

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR
S1F1	.85	.05	.05	-.03	.22	.00
S1F2	-.05	-.24	-.74	-.12	.12	.11
S1F3	-.12	.76	-.06	-.17	-.01	-.05
S1F4	-.07	-.02	.04	.03	-.02	.01
S1F5	.06	.10	.07	.23	.11	-.82
S1F6	.17	-.09	-.12	-.36	-.66	-.29
S2F1	-.85	.10	-.05	.03	.16	.26
S2F2	-.05	.18	-.79	.04	-.12	-.23
S2F3	.28	.51	.09	.20	-.02	.37
S2F4	.01	.14	-.07	-.86	-.08	.25
S2F5	.18	-.05	-.05	-.17	.76	-.18
S3F1	.89	-.02	-.12	-.21	.01	.17
S3F2	-.05	.46	.36	.01	.23	.63
S4F1	-.62	.48	.04	-.27	.10	.10
S4F2	.35	.43	-.62	.17	-.11	.17
S4F3	.59	.14	.16	-.66	.22	-.03
Eigen-values	3.39	2.36	1.95	1.42	1.27	1.08
Accumulated percent of variance accounted for	21.18	35.91	48.[illegible]	56.91	64.84	71.58
Accumulated percent of common variance	27.15	46.03	61.52	72.94	83.11	91.75

TABLE 12

ROTATED MATRIX OF SECOND-ORDER OBSERVATION SCALE FACTORS

	FACTOR 1	FACTOR 2	FACTOR 3	FACTOR 4	FACTOR 5	FACTOR 6	FACTOR 7
	.85	.05	.05	-.03	.22	.00	.02
	-.05	-.24	-.74	-.12	.12	.11	.09
	-.12	.76	-.06	-.17	-.01	-.05	.00
	-.07	-.02	.04	.03	-.02	.01	-.92
	.06	.10	.07	.23	.11	-.82	.06
	.17	-.09	-.12	-.36	-.66	-.29	-.03
	-.85	.10	-.05	.03	.16	.26	-.18
	-.05	.18	-.79	.04	-.12	-.23	-.08
	.28	.51	.09	.20	-.02	.37	-.51
	.01	.14	-.07	-.86	-.08	.25	.11
	.18	-.05	-.05	-.17	.76	-.18	.00
	.89	-.02	-.12	-.21	.01	.17	-.09
	-.05	.46	.36	.01	.23	.63	.04
	-.62	.48	.04	-.27	.10	.10	.05
	.35	.43	-.62	.17	-.11	.17	.38
	.59	.14	.16	-.66	.22	-.03	-.08
n- es	3.39	2.36	1.95	1.42	1.27	1.08	1.03
mulated percent of variance accounted for	21.18	35.91	48.00	56.91	64.84	71.58	78.02
mulated percent of common variance	27.15	46.03	61.52	72.94	83.11	91.75	100.00

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Exhibit L.1

DESCRIPTION OF WRITTEN MEASURES

I. Measure of openness about disclosing personal information; Self-Disclosure Questionnaire (SDQ). S answers true or false to previously rated items of intimate content, according to whether S has or has not truthfully disclosed that information to a given target person. Target person may be defined by the experimenter, and is usually designated as "best friend of the same sex," or "casual acquaintance of the same sex," or both, if comparison is desired. S is rated as a high-, medium-, or low-discloser according to toal number of "true" answers. Studies have determined related behavior patterns.

II. Measure of consistency between beliefs about people and the world in general, and injunctions about proper teaching practices: Belief-Gap Questionnaire, given in two parts as Teacher's Practices Questionnaire (TPQ) and Personal Beliefs Questionnaire (PBQ), respectively. Objective tests where S agrees or disagrees with statements of metaphysical or educational belief and classroom practices. Score is the subtraction of one total from the other, and represents the width of the S's "belief gap," or inconsistency in thinking. Studies show that large belief gap teachers are less effective than are small gap teachers, regardless of belief content.

III. Measure of structure of belief systems in terms of rigidity/flexibility: This I Believe test (TIB) is an open-ended, short essay test in which S responds to several referents such as religion, immorality, myself, people, etc., in terms of his beliefs. Content and process of beliefs is scored by trained raters on a number of dimensions, including rigidity, flexibility, evaluativeness, cynicism, integration, etc. Studies relate patterns of scores on these dimensions to behavior. Cumbersome because of the need for two or more raters and inter-rater reliability criterion.

IV. Measures of empathetic tendency toward others, sensitivity to rejection, and affiliation tendency: Measures of the same names drawn from studies by Mehrabian (1972); sets of direct questions concerning preferences for certain responses over others in given eliciting circumstances. S rates preference over the stated response on a bi-directional scale with reversed items. Total scores after items are re-reversed indicate level of that factor of that S. Related to defined sets of nonverbal behavior by research.

V. Measure of ease of verbal and ideational associations and fluency: Four measures were drawn from research report carried out on Air Force personnel in 1967 by Taylor, et al; *Similes*, a measure of ideational fluency; *Word Association*, a measure of associational fluency; *Topics*, a measure of flexibility; *Compound Words*, also a measure of ideational fluency. Speed tests of four to six minutes each, wherein *S* writes as many appropriate responses as he is able. A behavioral test of verbal skill only.

DESCRIPTION OF OBSERVATION SCALES

I. Facial Expressiveness: Twenty-nine bi-polar, semantic differential-type items were rated on a five-position scale. Four items described amount and type of *eye contact*. Two items each described amount of *observation of the child by the S*, and *head nodding or shaking*, for approval or disapproval. Nineteen items described the observer's feelings in response to the *general facial expression*. Viewed without sound.

II. Body Gestures: Twenty-one items were distributed as follows: five focused on the amount and type of *touching*; four on the amount and feelings of *distance*; three items on *degree of leaning*; four items on *body orientation*; four items on *body relaxation*; and one item on frequency of *body movement*. Viewed without sound.

III. Vocalization-Verbalizations: Fifteen bi-polar semantic differential items were rated as to the observer's affective response on hearing the voice without visual picture. Focus on sound only.

IV. General Impression: Nineteen items rated as to the observer's overall attitude concerning the target *S* as a person. Rated without a repeated viewing, after a pause between this and the previous scale rating.

Exhibit L.2

MATRIX OF AUXILIARY RESEARCH PROCEDURES

GOAL	SUB GOALS	STRATEGIES	TACTICS			
TO IMPROVE PRE-SERVICE (AND IN-SERVICE) TEACHER TRAINING IN THE AREA OF AFFECT	TO CREATE AWARENESS AND INTEREST BY DESCRIBING PATTERNS OF AFFECTIVE COMMINICATION	Gather and select information	make bibliography read references take notes on types of tests	read suggested articles from resources	organize reading categori -methodology, training, content	select behavio categories: observation context/task beh. to be rate
		Develop measures of information	collect tests write synopsis evaluate select for use	arrange contact with resources for feedback on development	type/print scales pilot scales: written & observation	select raters: train, check reliability
		Gather data	arrange appts. w/ special ed. area coordinators pre-test	arrange appts. with student subjects pre-test	contact districts coop. teachers, principals for observation appts. observe & tape Ss	arrange appt. sheets for taping copies to all - reminder phone calls make-up appts.-
		Analyze data	score tests group tests analyze test patterns	correlate global and specific tests	score scales factor analyze correlate w/ predictors	analyze data according to "anchor" data - supervisor ranks
	TO "SELL", DISSEMINATE AFFECTIVE FINDINGS TO THE CONSUMER: PRESERVICE AGENCY	Write proposals	orally present to faculty copies to faculty discuss w/ faculty	orally present to RMRC staff copies to RMRC discuss w/ RMRC	copies to BEH - renewal prop - site visit	
		Contact agency personnel	appts. w/ faculty to get feedback, needs, requests	contact students to arrange meet. to get feedback on mutual needs	speak to special groups: classes, research groups, coord., teach's	maintain sys. of contact w/ research assis
		Feedback to agency	regular contacts arranged: specific& informal	make appts. w/ students for ind. feedback	discuss with RMRC staff at research meetings	progress rep- BE year-end partial report, final working paper
		Maintain relationship to agency	establish system of formal and informal commun.	atten meetings, classes, special presentations, parties of spec. Ed.	fill special requests: letters of info, copies of tests statistical help	enhance contact w/ interested outside agenci -NEED, CCS, ETC